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## The Public Should Have the Best

THE obstacles offered by natural forces and materials to the efforts of a City Engineer or of the Superintendent of a public utility are generally the least of his trouble. The greatest is that he practically has two masters—the public and the politician. Fortunately, it is becoming increasingly true, and more fully realized by him, that the public is really the master and the one whose interests are most important. The public demands efficient service at moderate cost; the politician demands, among other things, places for his friends. An employee who feels that he will be “taken care of” by a politician of influence is very apt to shirk. Largely for this reason is it true that success in municipal ownership is a question of politics—

of whether the plant is run solely in the interest of the people, or with that interest made subsidiary to others.

It is doubtful, however, if there was ever such a wholesale strike at public service as that described in another column. The Kansas legislature has said that no public position of any kind in any part of the State shall be filled with any but veterans of the Rebellion so long as one of these wishes such position, and who “can perform the duties” thereof, not necessarily well, but at all. Ex-soldiers are, as a rule, no better and no worse, no more and no less capable, than other human beings over sixty years of age; and while many would undoubtedly render good service to the public, the majority, deprived of any incentive thereto but their consciences, would fall far short of this. The evil of such compulsory employment, whether of ex-soldiers or of political henchmen, is, moreover, not confined to the waste involved in their wages, but they lower the standard throughout a whole department of efficiency, of self respect, of loyalty to their real masters—the public; and this not in the lower positions only, but a department head can hardly be blamed if he loses enthusiasm when handicapped with such conditions for which he is in no way to blame. The public should be served in the most economical way and by the best men from top to bottom.

## Sewer Gas Not Responsible

AN illustration of the familiar effect of giving a dog a bad name was given by a New York daily recently, which used as a heading to a news item “Five Found Stifled by Sewer Gas.” It would have been nothing out of the ordinary to have found that the workmen referred to were overcome by illuminating gas which had leaked into the sewer and had been prevented from escaping by insufficient ventilation; or, given not only poor ventilation but also a sewer so constructed and designed as to permit accumulations of putrescible matter retained for a sufficient time to permit of the formation of gases of putrefaction, and the same unfortunate results might have occurred. In this particular case, however, the sewer was one which was being built in tunnel through rock 45 feet below the street level and which had never received a gallon of sewage, as there would have been no outlet for the same. As a matter of fact, the men were overcome by impure air and gases due to blasting. Once in a while sewer gas does have an injurious effect, but for one such case there are a thousand where the effect is due to something else, and great numbers of men work daily in sewers all over the country without any injurious effect whatever from their occupation. In fact, the air of a well-ventilated sewer is much less dangerous than that of many a theater or church.

### Flushing Sewers

THE question of periodic *vs.* automatic flushing of sewers is discussed by Messrs. Williams, Proctor and Potts in a recent report made by them on the sewerage of Morristown, N. J. "The question of flushing," says the report, "is one that is by no means solved, the evidence for and against being about evenly divided between periodic flushing of this kind and automatic flushing. Indeed, there are advocates of the idea of no flushing at all. Mr. F. S. Odell, of Port Chester, N. Y., in an exhaustive article in the *Transactions of the American Association of Civil Engineers* in 1893, described the sanitary sewers of Port Chester, in which periodical flushing only is used. His experience indicates that automatic flushing is a double waste of money, there being the first cost of the flush tanks and the cost of the enormous amount of water used by them annually. They estimated that the Morristown system would require 126 flush tanks, costing \$6,300 for flushing appliances which would consume about 13,797,000 gallons of water per year, which, at 15 cents per thousand gallons, would amount to \$2,069.75 per year for water. This, plus 5 per cent. interest on first cost, would give a total of \$2,384.75 per year. On the other hand, experience in six New England towns indicates that flushing four times a year would require perhaps 157,000 gallons and the service of one attendant for at least 22 days during the year, at a total cost for both of a little more than \$100. In view of this, and also the lack of conclusive data by the advocates of automatic flushing, we recommend periodic flushing for Morristown. Periodic flushing is very effective when properly done, for it is begun at the higher elevations, and from these tanks the sewers are flushed downward to the lower elevations, and any refuse lying in the upper reaches of the sewer is thus completely washed out. In using automatic flush tanks on a system where the sewage is treated in a disposal plant, as at Morristown, the fact must not be lost sight of that capacity must be provided in the disposal plant for 37,800 gallons of water (per day) contributed by flush tanks. While this is an inconsiderable amount, it represents, however, a proper charge against automatic flush tanks." In the above the engineers have appeared to consider chiefly the financial point of view, or at least have confined their argument largely to that. While this is important, it is still more essential that the sewers should be in fact, as well as in name, sanitary sewers, and that no reasonable pains be spared to prevent any stoppage in the sewers, which stoppage not only might result in physical difficulties connected with removal thereof, but would almost certainly result in the formation of gases of putrefaction, with their accompanying objections. The most important advantage of the automatic flushing tanks is the prevention of deposits in the upper stretches of the sewer, down to a point where there are a sufficient number of contributors thereto to maintain a practically continuous flow. Points above which there are only a few houses will receive discharges of sewage only more or less intermittently and between discharges solid matters therein, which have been deposited by the shallow flow,

may find time to adhere to and partially dry upon the walls of the sewer to such an extent that following discharges will not dislodge them, since these will be ordinarily of small quantity. Such matters become more firmly attached after several days, and by damming up the sewage behind them may gradually increase until they reach serious proportions if the sewer is cleaned only once in three months. A strong flush of water through the upper end of the sewer once a day will ordinarily prevent the formation of any such deposits, washing away each time such as may have collected during the previous twenty-four hours. For other portions of the system we believe that hand flushing at intervals of weeks or months is probably best; but for stretches of sewer such as those described above, where there is small and intermittent flow, automatic tanks with daily discharges are certainly advisable, in our opinion.

### Monolithic Cement Sidewalks

IN a discussion before the Association of American Portland Cement Manufacturers of a paper describing concrete roadways, Mr. Brobston, of the Dexter Portland Cement Company, called attention to an idea which must have suggested itself to many during the frosty days when smooth cement sidewalks are so apt to become almost dangerously slippery. "If it is unwise to put a surface coat on a street pavement, why not go a step further," said he. "What is the use of putting a surface coat on a sidewalk? Mr. Newberry has pointed out that it will not be as strong as the main body unless put on very carefully. In addition to this, in our town we have had a great deal of trouble with cement pavements in the winter. The surface coats we have put on become glassy, and for that reason there has been considerable objection to putting down additional cement sidewalks. On this account I last year persuaded a man who was putting down quite a good sized pavement not to put any top coat on at all, but simply to put a mixture such as has been suggested here (cement, sand and gravel, mixed 1, 3 and 5) and smooth it off with a board. That pavement was not slippery at all during the winter and was by far the best pavement in town.

"Another objection to putting the surface coat is that frequently the workmen do not know how to do it properly. I recently observed a case of that kind. A pavement was being laid rather late in the fall. A couple of blocks had been finished with the exception of the top coat. It became cold quite suddenly, and instead of putting the top coat on immediately the man who was doing the work decided to wait until it was warmer. Our chemist, Mr. R. K. Mead, happening to notice it, advised him to put it on at once, but he did not do it for a week; when, of course, the main body was set hard as a rock. There was nothing to bind to the surface coat, and to-day you can see where the frost has gotten under it and completely shattered it on both these blocks, the rest of the pavement being in perfect condition. The top coat not being as serviceable, and liable to make trouble when not properly

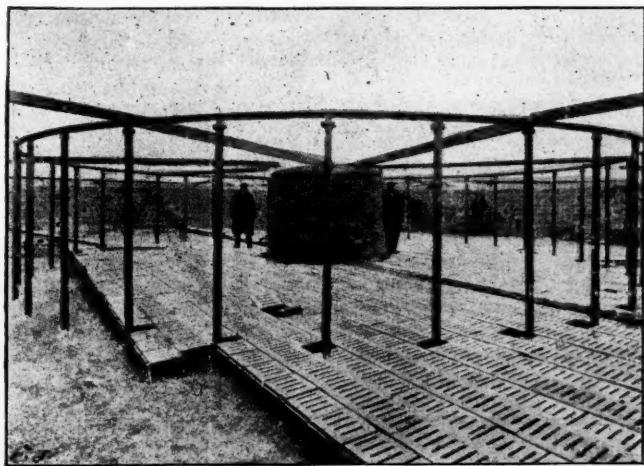


laid, it certainly seems to be superfluous." Attention was called to the sidewalk of the Hotel Astor, New York, which has no top coat and which is expected to maintain a uniform texture no matter how much it wears. Cement sidewalks built for the Borough of Brooklyn, N. Y., are constructed in much the same way, the surface mixture being composed of cement and fine gravel, so-called, which is really a mixture of fine gravel stone and various grades of sand. These pavements do not become slippery in winter and wear more satisfactorily under heavy foot traffic than do those with a smooth, slick surface coat, although they may not present quite so pleasing an appearance; and we believe that the method of paving suggested by Mr. Brobston is to be recommended in almost all cases.

### PERCOLATING FILTER AT GREETLAND

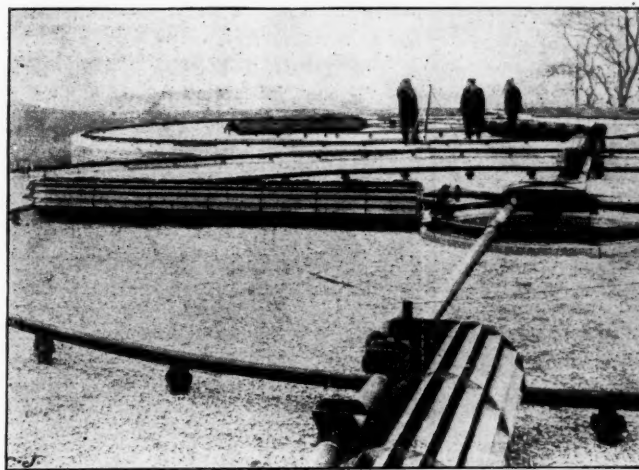
ON May 27 there was put into service at Greetland, England, a sewage disposal plant, part of which consists of percolating filters fed by Fiddian distributors, which were described in the MUNICIPAL JOURNAL a few weeks ago. The population of Greetland is about 4,500, the dry weather sewage flow being approximately 50,000 gallons. Like most English sewerage systems, this is a combined system, and storm water as well as house sewage is brought to the disposal works, but all combined sewage exceeding six times the normal flow is discharged directly into the river. The sewage first flows into two detritus tanks, each 30 feet long, 7 feet wide and 5 feet deep; at the lower end of these all sewage exceeding four times the normal flow is conveyed directly onto the land, but less than this amount is carried to the septic tanks, which are two in number, 53 feet long, 20 feet wide and 6 feet average depth, having a total capacity of about one day's dry weather flow. The tanks are of concrete, the floors being 12 inches thick and paved with bricks laid in cement. Sludge outlets and pipes permit drawing off any sludge on to sludge beds.

From these tanks the effluent passes to four circular percolating filters, each 65 feet in diameter, and having an average depth of 6 feet 6 inches. The walls are 18 inches in thickness, built of squared rubble masonry, special perforated blocks being placed therein at intervals admitting air, and holes being left in the base of the wall as outlets



GREETLAND PERCOLATING FILTER, SHOWING INTERMEDIATE TRACK AND DRAIN TILES

for the effluent. The floor of the filter is formed of concrete 6 inches thick and has a uniform fall from the center to the circumference, the whole being covered with a special form of salt glazed drain tiles. Around the outside of each filter runs a collecting channel 18 inches wide, which falls to one point, from which the effluent is carried to the collecting chamber. These filters contain as a filtering material thoroughly screened broken stone. The distributors for each tank consist of three arms which run on three lines of rails, the intermediate track being laid upon cast-iron columns carried up from the floor, and the inner and outer tracks upon a central pier and the coping of the outside wall respectively. The final effluent from the filters flows to the collecting chamber, from which it is discharged into the river.



FIDDIAN DISTRIBUTOR ON GREETLAND FILTER

### Water Works of Gloversville

THE annual report of the City of Gloversville, N. Y., for the year 1906 contains a very complete and explicit statement concerning the operation of the water works department and the finances of the same. The plant was built in 1877, and its gross income for the first fiscal year thereafter was \$1,832; and this has increased at a fairly uniform rate, indicating a healthy growth, to a gross income of \$48,264.43 in the year ending December 31, 1906. The cost of the works to date has been \$411,119.94, of which \$205,000 has been paid for by four bond issues and the remainder by payments out of the income from time to time. Of the bonds \$59,500 has been paid off; and there is at present a sinking fund of \$66,850; leaving \$88,650 to be raised for this purpose previous to 1917, when the last of the bonds mature. The actual interest paid upon the bonds last year was \$5,661.11.

The income of the plant last year consisted of water rents, \$31,217.12; meter accounts, \$12,850.95; interest on sinking fund bonds, \$676; and other miscellaneous expenses, bringing the total gross income up to the sum above stated, namely \$48,264.43. The disbursements include, besides the \$5,661.11 interest, \$2,427.73 for permanent improvements; \$29,850 sinking fund; \$1,324.37 taxes; and other expenses for labor, meters, repairs, etc., making a total of \$49,735.27; the difference between this and the gross income being the difference between the cash balance at the end of 1906 and that at the end of 1905.

No allowance was made in the receipts for any services rendered the city. If we assume that a private company would have had to furnish free water to public buildings and for street sprinkling in return for its franchise, it still would probably have received a hydrant rental of \$50 per year per hydrant, which would have placed to the credit of the company a rental for 289 hydrants of \$14,450, raising the total gross income \$62,714, leaving a net income of \$12,979. If to this we add the amount paid for interest, extensions, sinking fund and taxes we have a total of \$52,242.21, which is about 12.7 per cent. of the total cost of the plant. If we assume an interest rate of 4 per cent. (which is about the average of that on the several bond issues), we have 8.7 per cent. left to cover taxes, sinking fund and other expenses which should be charged against the department. Three per cent. should be sufficient to cover the sinking fund and taxes for a water plant, leaving 5.7 per cent. for depreciation and other minor expenses—a sum which would seem to be ample for this purpose. The physical condition of the plant, judging from the report, is in an excellent condition; the water shows up well under analysis; the rates appear to be very reasonable (\$4 for each private family, \$2 for a bath tub, etc.), and altogether the department seems to be in a commendably healthy state.

### Causes of Fires

ONE important preliminary to the prevention of fires is a knowledge of what causes are most prominent in creating them, and the following list of the causes of nearly 70,000 fires, which has been compiled by the Continental Fire Insurance Company of New York, covering the seven years ending with 1906, and excluding the San Francisco fire, will be of interest from this point of view as well, possibly, as from others.

Cause.	Number.	Per cent. of total.
Unknown .....	3,972	5.71
Outside causes, exposures, etc.....	9,459	13.59
Lightning—		
Live stock .....	777	1.11
Building, etc.....	4,942	7.11
Total lightning .....	5,719	8.22
Incendiary—		
Internal by assured.....	868	1.24
External by tramps, etc.....	2,649	3.81
Total incendiary .....	3,517	5.05
Carelessness—		
Adults .....	3,364	4.83
Children .....	1,118	1.61
Drunkenness .....	29	.04
Matches .....	7,530	10.82
Plumbers, mechanics, etc.....	608	.87
Cigarettes or cigar stub.....	570	.82
Total carelessness .....	13,219	18.99
Lighting—		
Candle .....	533	.77
Gas jets in contact with curtain.....	2,984	4.28
Lights in show windows.....	191	.28
Kerosene .....	3,514	5.05
Electric .....	2,062	2.96
Barns .....	79	.11
Leaking gas pipes.....	385	.54
Gasoline gas machines.....	119	.17
Lamp shades .....	70	.10
Total lighting .....	9,937	14.26

Heating—		
Defective flues .....	4,562	6.56
Stoves .....	3,783	5.43
Gas stoves (previous to 1904 included under Stoves) .....	263	.58
Fire places, open grates.....	1,202	1.74
Steam .....	197	.29
Gasoline stoves .....	901	1.30
Kerosene oil stoves .....	623	.90
Hot air furnaces .....	851	1.22
Burning out soot in chimney.....	518	.74
Stove pipes, defective.....	480	.67
Stove pipes, through walls, roofs, etc.....	125	.18
Dry kilns .....	78	.12
Dry rooms .....	93	.12
Laundries .....	57	.08
Water backs, explosions.....	37	.05
Smoke houses, private.....	20	.02
Smoke houses, public pork.....	24	.03
Ovens .....	129	.19
Boiler .....	378	.55
Boiling grease .....	313	.45
Fumigating .....	73	.10
Burning of vaults, Smead (W. C.) system.....	1	...
Wood box .....	1	...
Total heating .....	14,709	21.12
Vacancy—		
Ordinary .....	23	.03
Temporary .....	51	.08
Total vacancy .....	74	.11
Sparks—		
Mill chimneys .....	268	.39
Forges and foundry furnaces.....	16	.02
From cupola .....	3	...
Locomotives, steam vessels, etc.....	584	.83
On roofs from chimneys.....	1,834	2.64
From forest fires.....	20	.02
Threshing machines .....	21	.02
Total sparks .....	2,746	3.92
Ashes .....	406	.59
Naphtha, gasoline, benzine, etc.....	376	.55
Fireworks .....	486	.69
Illuminations, wakes, Christmas trees, etc.....	259	.37
Spontaneous combustion .....	1,898	2.73
Explosions .....	248	.36
Sawdust spittoons .....	58	.08
Rats and mice.....	872	1.25
Pickers .....	47	.07
Steam dryers .....	6	.01
Friction .....	402	.58
Natural gas .....	105	.15
Sunlight through glass.....	22	.03
General Conflagration .....	990	1.52
Coffee roaster.....	4	...
Moving picture machine.....	2	...
Slaking lime .....	1	...
Alcohol .....	26	.03
Chemicals .....	12	.01
Total number of fires.....	69,579	...

### Exhibition of Road-Making Implements

STATE ENGINEER Nathaniel Ellery has consented to conduct an exhibition of practical road making at the Fair Grounds for the benefit of Supervisors, Roadmasters and others interested, during the next California State Fair, and anticipating that manufacturers of the necessary implements will be glad to supply the same and help to operate them, as they do for these exhibitions in the Eastern States, the Society offers special prizes for such implements in operation, as follows:

Section	First	Second
1. Best road plow, in operation.....	Gold Medal	Silver Medal
2. Best road grader, in operation.....	Gold Medal	Silver Medal
3. Best oil distributor, in operation.....	Gold Medal	Silver Medal
4. Best traction road roller, in operation.....	Gold Medal	Silver Medal
5. Best road roller, other than traction, in operation .....	Gold Medal	Silver Medal



## SOLDIER PREFERENCE IN KANSAS

### Municipal Officials of Kansas City Affected—Ouster Suits Filed in State Supreme Court—Test of Law and Resume of Legislation

By SHEFFIELD COWDRICK

FIVE suits were filed in the Kansas Supreme Court on June 1 to oust officeholders whose appointments are alleged to have been in violation of the soldiers' preference law passed by the last Legislature. The trial of these cases will give the court an opportunity to pass upon one of the most drastic pieces of soldier-preference legislation ever enacted in the country.

The Supreme Court suits are from Kansas City, Kan. The defendant officials are George K. Addison, sanitary sergeant; J. L. B. Eager, city physician; Larkin Norman, building inspector; R. L. McAlpine, city engineer, and A. Eagle, police clerk. All were originally appointed before the passage of the new soldier-preference law last winter, and were reappointed this spring. Before they were reappointed, however, an old soldier applied for each position. The Mayor refused to displace the old officials, and reappointed them in the face of the soldier-preference law. It is now up to the Supreme Court to decide whether or not the veterans are entitled to the jobs.

The present soldier-preference law was enacted by the Legislature last winter. Its main provision is as follows:

"In grateful recognition of the services, sacrifices and sufferings of persons who served in the army and navy of the United States in the War of the Rebellion, and have been honorably discharged therefrom, they shall be preferred for appointments and employed to fill positions in every public department, and upon all public works of the State of Kansas, and of the counties, cities and towns of this State, if competent to perform such services; and the person thus preferred shall not be disqualified from holding any position in said service on account of his age or by reason of any physical disability, providing such age or disability does not render him incompetent to perform the duties of the position applied for; and when any such ex-soldier or sailor shall apply for appointment to any such position, place or employment, the officer, board or person whose duty it is or may be to appoint a person to fill such place shall, if the applicant be a man of good reputation and can perform the duties of the position applied for by him, appoint said ex-soldier or sailor to such position, place or appointment."

This act was passed as an amendment to an earlier soldier-preference law which had been in force for several years. The former statute was considerably less drastic than the new law. It provided that soldier applicants for appointive positions "shall be preferred for appointment and employed to positions in every public department and upon all public works of the State of Kansas, and of the cities and towns of this State, over other persons of equal qualifications."

Under this earlier law, a soldier applicant for an appointive office had to demonstrate that his qualifications

were equal to those of any other applicant. This was not sufficiently stringent to suit the old soldiers of the State, and they got the law amended in such a way that a soldier applicant must simply be "competent to perform such services." Should this law be rigidly enforced, it would practically take away all discretion from the Mayor of every city of Kansas in making appointments, as well as from the Governor and every other public official having appointing power.

City officers all over Kansas are waiting anxiously to see how the Supreme Court will interpret the new law. The city elections occurred shortly after the law went into effect, and the newly elected Mayors had not fairly been assured of their election before the soldier-preference law began to be quoted in connection with municipal appointments. The Mayor of Kansas City refused to recognize the statute, and as a result the Supreme Court will have an opportunity to pass upon the new law.

Even under the former law, with its considerably milder provisions, the subject of appointive preference was brought to the attention of the Supreme Court. In 1903 W. S. Bergundthal, who had just been elected Mayor of Topeka, appointed Porter Mitchell as Superintendent of the city electric light works. By this appointment he displaced H. K. Goodrich, who had held the position up to that time. Goodrich was an old soldier. He refused to recognize the appointment of his successor as legal, and brought *quo warranto* proceedings in the Supreme Court to oust Mitchell. The attorneys in the case agreed upon a statement of facts, in which it was acknowledged that the qualifications of the two men were equal. In agreeing to this statement of facts, Mitchell's attorney depended upon being able to have the law declared unconstitutional. He failed in this attempt, and the Supreme Court decided the case in favor of Goodrich.

At about the same time that the Goodrich case was tried, a similar case came before the court from Junction City. This suit was over the appointment of a city attorney—an appointive officer in cities of the second class. In the Junction City suit, however, there was no agreed statement of facts, and the court decided for the defendant. In this decision it was held substantially that, while the soldier-preference law was constitutional, the decision as to the relative qualifications of different applicants was left to the officer having the appointing power, and that his judgment was not subject to review by the courts.

If the court interprets the present law along the lines of its two decisions on the former law, a Mayor or other officer making an appointment can reject the application of an old soldier, provided he takes the responsibility of declaring the applicant incompetent. As the new law does not make the appointment dependent upon relative qualifications, however, it is possible that the court will make a more positive ruling on it, and either declare the law unconstitutional or insist upon its being strictly enforced. In the latter case there will be a decided shaking up in the system of making appointments in Kansas municipalities.

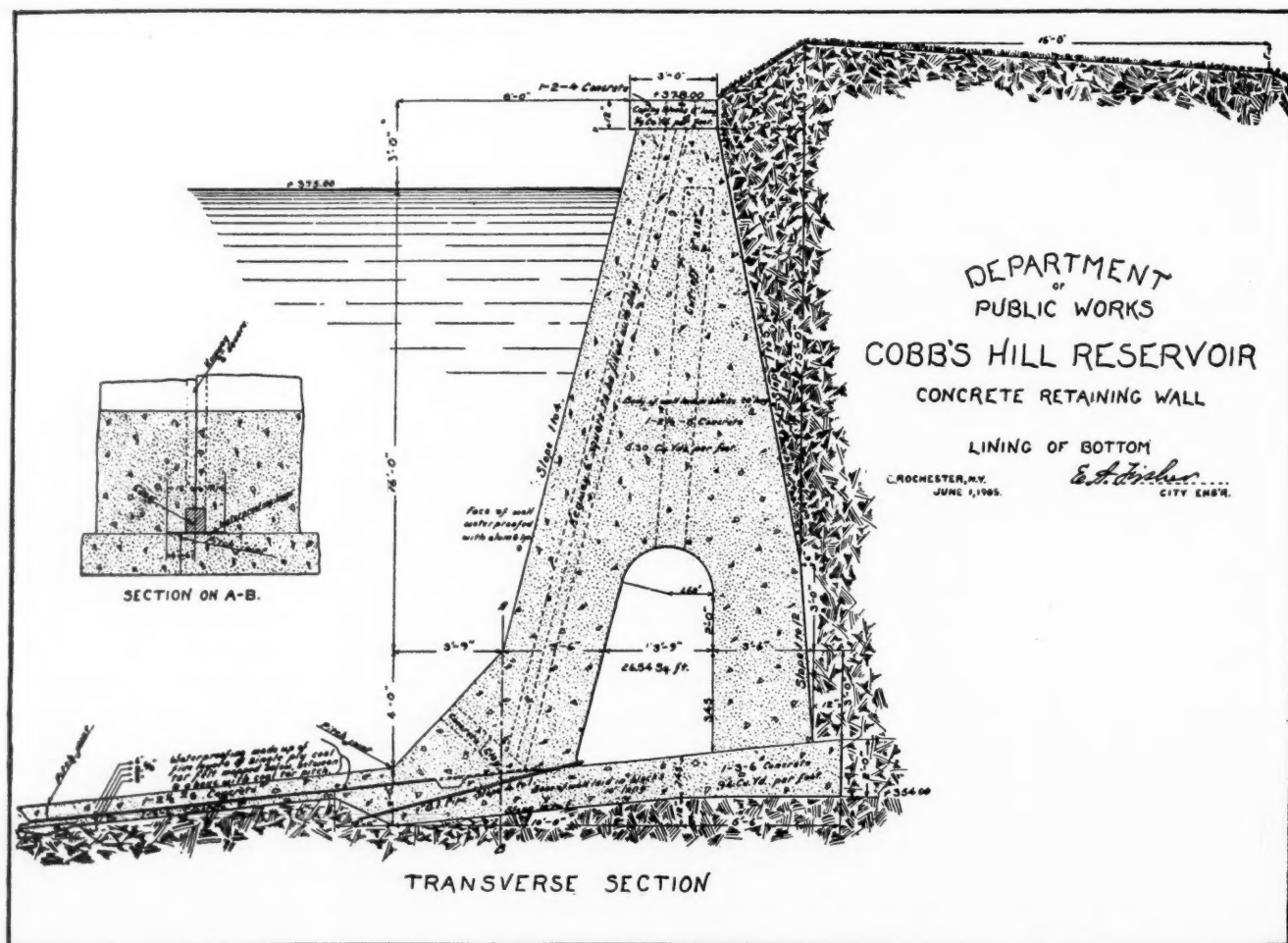
The opponents of the soldier preference law claim that it is class legislation, and that it practically takes away the appointing power. They attack the law on the ground that it prevents a Mayor or other responsible officer from giving an efficient administration of public affairs.

In case the Supreme Court should decide that the soldier-preference law must be strictly enforced, the effect of the law will be much greater in cities which adopt the new commission law than it is in any city of Kansas under present conditions. Under the commission form of government which a number of the larger cities of the State are planning to adopt, the appointive positions are more numerous and more important than they are under the present system. They include, besides the positions now filled by appointment in cities of the first class, the offices of city attorney, city clerk, city treasurer, city auditor, and judge of the police court.

#### Hollow Masonry Dams

DURING the past few years a number of dams have been built in this country, generally of concrete, which have contained longitudinal passages of considerable size through their entire length, the principal object in most cases being the saving in material thus affected. That these interior passages might serve an additional purpose, however, has been recognized, and several such uses have been suggested. In one case a sidewalk was laid through such a passage, by which operatives could pass between mills on the opposite sides of the

stream. It has also been proposed to carry water and gas mains, electric cables, etc., through these. In connection with the Cobb's Hill reservoir of the Rochester, N. Y., Water Works, a concrete retaining wall is built, through the bottom of which is carried a passage about 7 feet high and having an average width of 3 feet 9 inches, the purpose of which is to allow inspection of the interior of the wall for evidences of leakage through the concrete and similar investigations. This wall is built on a concrete foundation laid in blocks about 10x15 feet, the wall itself being laid in sections 20 feet long, built in place. The length of this retaining wall is about 3,600 feet. A tell-tale pipe is inserted in each wall block, so that leakage from the reservoir bottom near the wall may be discovered before serious washing of the underlying sand occurs. For making the joints between the wall blocks watertight, the design provides a key-way 6x6 inches square to be filled with puddled clay. Leakage through these joints also may be discovered by inspection in the central passage. One reason for adopting special measures for observing the tightness of this wall was the porous character of the material of which the hill is composed, which required that dependence for watertightness be placed solely upon the walls and lining of the reservoir. For this reason the bottom of the reservoir was designed to be constructed of two layers of concrete as follows: A lower layer of concrete to be laid continuously 3 inches thick, except that under





where the joints in the upper layer come the thickness was made 6 inches and a steel reinforcement inserted for a width of 2 feet. On this a waterproofing consisting of five layers of single-ply coal tar felt, each mopped with hot pitch above and below; and upon this waterproofing a 6-inch layer of concrete built in 12-foot squares, the upper parts of the joints being left  $\frac{1}{2}$  inch wide and filled with hot paving pitch.

### REPAIRING WATER MAINS

Two papers were contributed at the last convention of the American Water Works Association upon repairing water pipe, one by C. W. Wiles, of Delaware, O., and the other by Henry A. Lord, of Ogdensburg, N. Y. The former described the repair of a 16-inch force main which crossed a stream just below a stone bridge, which bridge was wrecked by a flood and in falling broke the pipe, the top of which had been protruding above the bed of the creek. This occurred at night, but the break was not located until morning, when there was still three feet of water above the main. After considering several methods for temporary and permanent repair, the following was adopted: The pipe was uncovered for some 40 feet each side of the break; a large derrick was erected over the pipe on one side of the bridge, and after three joints of pipe had been uncovered and the partially broken length in the water had been entirely severed by dynamite, an attempt was made to raise the end of the broken main on the south side of the break by the derrick, but not until four iron jacks had been placed by the side of the pipes could these be raised; with their use, however, the broken end in about 30 minutes had been lifted more than three feet, clearing the water of the stream. In the same way the main to the north of the break was raised; the lead joints on each side giving sufficiently to prevent damage to the pipes. The ends of the broken pipe were then removed and an attempt was made to slip in a new 12-foot length of pipe, the ends of the old main being swung a little out of line, one in one direction, the other in the other, and then when the new pipe had been partially entered these were swung back into line again. The joints were run and caulked and several old joints each side of the break were tightened by caulking, and when the pressure was turned on no leaks were found. The entire job, including transportation of men and material  $2\frac{1}{2}$  miles, was completed in less than 24 hours, with the use of one 12-foot length of 16-inch pipe. The trench was left open and after a few weeks, when the water in the stream was low, the entire line was let down to its bed by undermining the pipe, and since that time there has been no trouble. The author believed that several days would have been required to make repairs by coffer-damming around the break and repairing the line in the ordinary way.

The other repair was made to a 12-inch main which connects the east and west-side distribution systems of the city of Ogdensburg, N. Y., which systems are separated by the Oswegatchie river. The pumping station is at the

easterly end of the dam across this river, and the two systems are connected not only by the 12-inch main but also by an 8-inch galvanized wrought-iron pipe. The latter crosses the river above the dam, the other in swift water below the dam up-stream from the bridge. This 12-inch main is 350 feet long, was laid with Ward flexible joints on the natural bed of the river without trenching, in an average depth of eight feet of water, and had been in position nearly seven years when the accident occurred. A jam of ice piled up against the center pier of the bridge, causing the floating ice to crowd and sink to the bottom, almost completely damming the river. The ice crowded down onto and around the pipe line, and when the pack started the pipe was broken by the irresistible force. The pressure at the pumping station immediately dropped to a few pounds, but the gates at each end of the line were quickly closed and the normal pressure regained, the 8-inch pipe being still in service. It was found that the 12-inch main had broken at a point where the current was swiftest and the broken pipe line had been carried down stream until the ruptured ends were about 15 feet apart. Several plans for repairs were considered, one being to pick up the broken ends, raise the pipe upon scows and put in an additional length of pipe; another was to procure divers, work the pipe back to its original position and then have a diver put on a special sleeve, but the author could think of no way to hold the pipe from pulling out of the sleeve if subjected to a strain in the future. Neither of these schemes was adopted, but one which was suggested by the method employed by Mr. Ward in originally laying the pipe line.

"The shore ends of the pipe line were uncovered and made as free as possible from gravel or other material which might obstruct or hinder it from being drawn shoreward. The pipe was disconnected at the westerly end, where the ground is low and flat, and a heavy capstan with horses for power was anchored and made fast to it with block and cable tackle. After two or three slight mishaps to the tackle and failures to start the heavy load, the pipe line moved, and once started came quite freely, each length being melted free with kerosene oil heaters and disconnected as it came ashore.

"After the westerly portion of the pipe had been taken from the water, it was necessary to employ a diver to make fast to the broken end of the easterly portion with a heavy cable about an inch and a half in diameter. The power was applied, but the pipe would not move, the cable being parted several times in the effort.

"It was found, upon further examination, that the pipe had rolled over a ledge of rock and was jammed in such a manner that it was necessary to raise it out and on to the ledge, which was done by means of a scow and pipe derrick.

"Once free, there was no further difficulty in hauling the easterly half of the pipe line across to the west side of the river and disconnecting it, as had been done with the first taken out.

"The disconnected lengths were then carted to the high ground on the easterly side of the river, cleaned, coated

with waterproof metallic paint, and made ready to be put together again.

"A tight wooden plug was fitted into the leading bell end, to keep out gravel and other debris, a heavy wrought-iron band was bolted back of the bell, and to this band were welded heavy iron draw bars, meeting in front of the center of the bell in a clevis to which was attached the cable reaching across to the capstan on the west shore. As soon as a joint was poured and caulked the pipe was hauled into the water by means of the cable, and in this manner the pipe was again made continuous, and upon testing found to be tight.

"The cost of repairs was comparatively small, and while it is, perhaps, but a matter of time and of similar conditions obtaining before the pipe will be carried away again, it is believed to be good economy to pay for repairs rather than excavate a trench in the rock bottom of the river."

### Reinforced Concrete Water Mains

A NUMBER of water systems in France have recently introduced what is known as the Bonna system of concrete pipes for pressures up to 300-foot head. City Engineer Collins, of Norwich, England, having recommended the desirability of constructing a 33-inch reinforced concrete main about 2 1-2 miles long, visited France to investigate this system. His report to the Council contains the following information:

At Maisons-Alfort, in the Department of Seine, the pipes necessary for a water-main were being constructed in a yard joining the road where they were to be laid. They had an internal diameter of 2 feet 7 inches, with thickness of walls of  $2\frac{3}{8}$  inches, and a length of 10 feet. The length of the main was five miles, the internal pressure being 120-foot head. At about mid thickness of the pipe walls are complete cylinders of sheet steel, which are also made at the spot, and jointed by means of a special fusing apparatus which fuses the two surfaces of steel into one at the junction. The fusing apparatus consists of a mechanically operated blowpipe, using a mixture of acetylene and oxygen. Before fusion takes place the edges of the sheet are turned up about  $\frac{3}{8}$  inch, so as to form a convenient surface upon which the apparatus may operate. This arrangement also gives a flexible or expansive joint, the value of which is apparent when a cage, composed of steel of + cross-section wound into a spiral, with longitudinal rods at about 9-inch intervals—the rods and spiral being

wired together at a sufficient number of intersections—is inserted within the steel tube. The flexibility of the steel tube enables it to be drawn over the internal cage, while at the same time it is in close adherence thereto. A similar cage, but of heavier section of steel, is drawn over the outside of the steel tube. The weight of the steel cross-section and the pitch of spiral depends on the diameter of the tube, and the intended working pressure. The steel tube is of the same length as the pipe, and is slightly flanged at both ends, the internal cage being of almost the same length as the pipe, and the internal cage slightly shorter.

When the tube and its internal and external cages have been prepared in the manner stated, the whole is placed upright on a platen or table, when a collapsible core of very ingenious construction is placed in position inside the tube and cages, leaving sufficient space all round to be occupied by concrete; a cope in three parts is placed round the outside of the outer cage, leaving sufficient space also for concrete, which is then mixed by hand in a concrete-mixing trough on an elevated platform running on rails and provided with cranes and other conveniences. The trough is mounted to tip to either end, and is 12 ft. by 4 ft. by 1 ft. 8 in. deep. A special mixing paddle is used somewhat similar to a small spade, having slots cut in it. Four men mix the concrete dry and six men mix it again wet, and when so mixed as to be in a practically liquid condition the trough is tilted, and by opening a hatch in the lower end the concrete flows between the core and the interior of the assemblage and between the cope and the exterior of the assemblage. During the pouring the cope is struck a series of blows with wooden mallets to assist in consolidation and in disentanglement of air. Mr. Collins was able to see pipes which had properly matured being laid and jointed, the jointing being done generally on similar lines to the construction of the pipe. In some cases where a slight amount of flexibility was required the first portion of the jointing was done with bitumen.

At Colombes a visit was paid to the pumping station, where a large plant of sewage-pumping machinery was inspected. Accompanied by the Chief Engineer, Mr. Collins followed the rising mains to Argenteuil, in the district of Seine-et-Oise, where, on entering the galleries, a 6-ft. reinforced-concrete "Bonna" pipe was inspected together with a 6-ft. riveted steel pipe, both of which were working at a pressure of 115 ft. head. Both of these pipes were constructed in 1894, the two kinds being used in order to ascertain which would give the best results in work. The Chief Engineer stated that it had been necessary to overhaul and repaint the steel pipe at varying periods, from once a year to once in two years, and frequently rivets and joints had to be caulked in order to prevent weeps becoming serious leakages. Mr. Collins noticed that a large amount of work had recently been carried out on the steel main, and from inquiry found out that, in consequence of the steel expanding, the pipe had lifted itself off the supporting brick piers for considerable lengths, which caused concentrated crushing loads to fall on the remaining piers, which necessitated the construction of new supporting piers throughout and the fixing of anchorage straps. Although the pipe had been thoroughly overhauled and was supported by the holding-down fittings, several weeps were in existence, but the steel pipe was in good working order, and seemed likely to remain so for some years to come. On the other hand, the reinforced-concrete pipe alongside, which

## GENERAL SUMMARY OF COST IN DOLLARS PER SQ. YARD OF PAVING IN SEVENTEEN CITIES OF THE UNITED STATES

Compiled from a symposium on Street Paving in the Annals of the American Academy of Political and Social Science

	New York*	Chicago†	Philad'phia*	St. Louis*	Boston	Baltimore	Cleveland	Buffalo†	Cincinnati*	Detroit†	Wash'g't'n*	Louisville	M'neap'lis	Ind'nap'lis§	Hartford*	Des Moines	Duluth
Asphalt sheet.....	1.66 <sup>1</sup>	.....	1.56 <sup>1</sup>	.....	.....	1.02 <sup>2</sup>	.....	.....	.....	2.52 <sup>2</sup>	1.46 <sup>2</sup>	.....	.....	.....	1.00 <sup>2</sup>	.....	.....
Asphalt block.....	2.36 <sup>1</sup>	.....	.....	.....	.....	2.13 <sup>2</sup>	.....	.....	.....	.....	1.76 <sup>2</sup>	.....	.....	.....	3.04 <sup>2</sup>	.....	.....
Asphalt, not specified.....	.....	2.20 <sup>3</sup>	.....	1.60 <sup>4</sup>	3.75 <sup>2</sup>	.....	2.25 <sup>2</sup>	2.56 <sup>2</sup>	2.35 <sup>2</sup>	.....	.....	1.97 <sup>2</sup>	.....	2.10	.....	2.00 <sup>2</sup>	2.05 <sup>4</sup>
Belgium block.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granite block.....	3.55 <sup>1</sup>	3.75 <sup>3</sup>	2.01 <sup>1</sup>	2.60 <sup>3</sup>	4.75 <sup>2</sup>	.....	.....	.....	4.00 <sup>2</sup>	.....	.....	.....	.....	.....	3.09 <sup>2</sup>	.....	.....
Bitulithic.....	.....	.....	3.00 <sup>1</sup>	2.15 <sup>3</sup>	3.50 <sup>2</sup>	2.15 <sup>2</sup>	.....	.....	2.50 <sup>2</sup>	.....	.....	.....	.....	.....	.....	.....	1.70 <sup>2</sup>
Brick (vitrified).....	.....	2.45 <sup>3</sup>	1.68 <sup>1</sup>	1.70 <sup>3</sup>	.....	2.00 <sup>2</sup>	1.40 <sup>2</sup>	.....	.....	2.47 <sup>2</sup>	.....	1.58 <sup>2</sup>	2.17 <sup>1</sup>	1.70 <sup>3</sup>	.....	1.70 <sup>2</sup>	2.00 <sup>1</sup>
Cresoted wood blocks.....	4.45 <sup>1</sup>	3.25 <sup>3</sup>	.....	.....	4.25 <sup>2</sup>	.....	.....	.....	3.75 <sup>2</sup>	.....	.....	.....	2.70 <sup>1</sup>	3.10 <sup>3</sup>	.....	.....	2.30 <sup>5</sup>
Cedar blocks.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.14 <sup>2</sup>	.....	.....	1.60 <sup>2</sup>	.....	.....	1.40 <sup>2</sup>	.....
Concrete.....	.....	2.50 <sup>6</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Macadam (general).....	.....	1.25 <sup>6</sup>	.....	.....	1.00 <sup>2</sup>	.....	.....	1.83 <sup>2</sup>	1.25 <sup>2</sup>	.....	.....	.....	1.25 <sup>4</sup>	1.30 <sup>2</sup>	.....	.....	1.00 <sup>1</sup>
Telford macadam.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.30 <sup>2</sup>
Tar macadam.....	.....	.....	.....	.....	.....	.....	3.15 <sup>2</sup>	3.43 <sup>1</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medina stone.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Novaculite.....	.....	1.25 <sup>2</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sand stone blocks.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.74 <sup>4</sup>	.....	.....	.....	3.00 <sup>3</sup>

Foundation: <sup>1</sup>Concrete or other base not specified. <sup>2</sup>Not reported. <sup>3</sup>Six-inch cement concrete. <sup>4</sup>Five-inch cement concrete. <sup>5</sup>Three-inch cement concrete. <sup>6</sup>Cinder, stone or other base above 10 inches.

\*Guarantee five years. †Guarantee five to ten years. ‡Guarantee ten years. §Guarantee nine years. ||No guarantee reported.



had done exactly the same work over the same period, was drop dry, and the Chief Engineer stated that it had never cost a penny for repairs since its construction.

Another visit was paid, in company with one of the officials of the Paris Municipality, at Avenue Trudaine, Montmartre, Paris, and in the galleries beneath the streets a long length of 4 ft. 2 in. reinforced-concrete pipe was inspected. This was on the "Bonna" system with a working pressure of 150 ft. head. There were cast-iron branches connected to it which were weeping at the joints, and rust was oozing out, but there was no such oozing or other defect noticeable in the case of the concrete pipe. The officer stated that no defect had been found in the reinforced-concrete pipe. Nothing had ever been done to it, and he was satisfied that it was in perfect condition.

A similar report was given by the Director of the Municipal Works at Nîmes, where eleven years ago a "Bonna" reinforced-concrete main was laid in that town. The length was about two-thirds of a mile, and the internal pressure nearly 300 ft. head. This was considered to be so successful that several other pipes of the same description had been laid from time to time in the district. In answer to inquiries as to whether the steel reinforcement and tube deteriorated, the director stated that he had carried out the operation of connecting a branch pipe to an old "Bonna" main, which necessitated cutting into the main. The result was most satisfactory, the adherence of the concrete to the steel tube internally and externally was thoroughly good, and the tube was in a state of thorough preservation, with no trace of deterioration. The steel reinforcement was in the same state of thorough preservation, and presented a blue appearance without any trace of deterioration, whilst the concrete had so hardened that it was difficult to break it with a hammer and chisel. In fact, the pipes and their joints were perfect and absolutely tight. This was corroborated by the inspection of a pipe which had become accidentally broken, and its appearance fully bore out the information given by the Director of Municipal Works at Nîmes.

#### Children Teach Cleanliness of Streets

THE scholars of the Pierce School of Brookline, Mass., are being trained by their instructors to believe in unlit streets. Four representatives from each room, about fifty in all, have formed a Good Citizens' Club; a section of streets has been assigned to each grade, which is held responsible for its appearance, and the teachers are conducted over the various "beats" by the respective squads on tours of inspection, which helps toward a stimulating rivalry. The manifest results are favorably commented upon by the citizens, and it is hoped will lead to imitation by them.

#### Specifications for Street Lighting

A SPECIAL committee of the National Electric Light Association reported at the Washington Convention last month specifications for street lighting, which report was one of the most important considered during the convention. The committee reported that "any attempt to compare the illuminating value of these latest forms of lamps (mercury-vapor or vacuum tube and metalized filament), which are or may be used for street lighting, on the basis of energy consumed, is not only futile, but would be ruinous to the contracting company; for, while the so-called high efficiency lamps operate on a lesser expenditure of energy, they also give a larger flame of light." The committee believed that the lighting of streets by contract is a matter of illumination produced rather than apparatus employed, and that the terms used in specifications should be those of illumination and not of energy; that an individual lamp of each class should be the unit of charge, and that the average illuminating power of each unit should be comparable with a common standard at a proper relative distance. The following specifications are drawn to cover the ordinary conditions of street

lighting. They do not claim to be in shape for insertion in a contract to be used under any conditions, as this was considered to be impossible. It also seemed desirable to make these specifications as intelligible to the layman as possible. They believed that there was no probability that the time would ever come when a standard contract can be prepared which will cover all kinds of lighting. The principal thing in street illumination specifications is to specify the candle-power given in that direction where the light is most needed, the light being the same as or more than an incandescent lamp would give at a stated distance. More than this cannot be specified in any contract.

(1) Under ordinary conditions of street arc-lighting, with lamps spaced 200 to 600 feet apart, specifications for street lamps should define the mean illumination thrown by the individual lamp, in position in the street, as measured at the height of the observer's eye and perpendicular to the rays, at some point not less than 200 feet, nor more than 300 feet distant, along a level street, from a position immediately below the lamp, with all extraneous light screened off and with no reflection from surrounding objects not forming part of the lamp equipment.<sup>1</sup>

(2) When using smaller units of light, such as series incandescent lamps spaced shorter distances apart, a correspondingly shorter distance from the lamp should be chosen in measuring the illumination.

(3) The lamp contracted for should give a mean normal illumination at the test point (selected as in Sections 1 and 2) not less than the illumination given by the stationary standard incandescent lamp of sixteen candle-power at one-tenth of the distance. The said standard incandescent lamp should be a standardization seasoned lamp having a determined candle-power in a fixed direction.

(4) When the lamp tested fluctuates in intensity, a number of observations of the maximum normal illumination should be made at a distance of not less than 200 feet horizontally from beneath the lamp, and the average of these measurements should be taken as the average maximum illumination. A similar number of observations of the minimum normal illumination should be made, the average of which should be taken as the average minimum illumination. The arithmetical mean of the said average maximum and minimum illuminations should be taken as the mean normal illumination called for in Section 1.<sup>2</sup>

(5) A reasonable number of lamps covered by the contract should be tested.

(6) For measuring the mean normal illumination of a lamp, comparison with the standard incandescent lamp may be made either with a suitable portable photometer or with a reading distance instrument, such as the so-called "luminometer."

(7) The unobstructed mean normal illumination must not be less at shorter distances than at the point of test.

(8) An approximate list of the mean normal illuminations thrown by street lamps of standard manufacture, at horizontal distances within the 200 to 300-foot range, hung approximately twenty feet above the level of the observer's eye is being prepared.

<sup>1</sup>The reason for leaving the horizontal distance flexible along the street within the range between 200 and 300 feet, is that a definitely specified distance such as 250 feet might be unsuitable for the purpose of the measurement.

Within the horizontal distance in excess of 200 feet, the distance correction for the height of the lamp above the observer's eye is ordinarily unimportant.

<sup>2</sup>(a) When a reading-distance instrument is used for measuring the mean normal illumination at specified horizontal range, the average of a number of maximum distances at which a certain size of print can be distinguished may be called the average maximum distance, and the average of a similar number of minimum distances the average minimum distance. From these, the mean distance at which an illumination is cast normally, sufficient for distinguishing that size of print can be determined. This mean distance must lie within the 200-300 feet horizontal range specified in Section 1. In most cases the arithmetical mean of the average maximum and average minimum distances may be taken as the said mean distance with an accuracy sufficient for practical purposes. The illumination needed for distinguishing the size of print may be determined for each particular observer from measurements of the reading distance with the standard incandescent lamp referred to in Section 3.

(b) When a portable photometer is used at a fixed horizontal distance, such as 250 feet, the mean normal illumination of a fluctuating lamp may be obtained by taking the average of not less than fifty observations at intervals of not less than one-half minute.

## NEWS OF THE MUNICIPALITIES

### Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

#### Roads and Pavements

CHATTANOOGA, TENN.—Plans for the improvement of McCullie Avenue, Chattanooga's finest residence street, are being urged by many enthusiastic residents. The work of widening the street has been under way for some time, and is now nearly completed. A new asphalt pavement has been laid from the downtown end of the street as far as Douglass, and now it is proposed to extend this paving out to Missionary Ridge, with the exception of a section already paved with brick. The Chattanooga Railway Company, owner of Olympia Park, near the terminal of the street, is anxious for the improvement, although it will be a heavy tax on the company, as will also the cost of relaying the tracks in the street.

CHEHALIS, WASH.—A campaign for more street paving than has ever been laid before in the city is under way. At a recent meeting of the Citizens' Club a project was considered for a general street improvement plan, to include every part of the city. A contract for a mile of macadam was recently made by Council. Legislation for brick paving on Market street, at a cost of about \$30,000, will be passed within a month.

COLUMBUS, O.—The State Railroad Commission and Highway Commissioner Samuel Huston have requested railroads operating within the State to help in the construction of improved roads by giving low freight rates on paving materials. The Commissioner has received many complaints from contractors, who charge that the freight rates on road materials were raised after contracts were let, so that work was often done at a loss in consequence. Representatives of the railroads have promised to correct this practice, and have expressed a willingness to make special rates on materials for use in State highways if it can be done legally.

EVANSVILLE, IND.—One of the most important improvements so far made this year has been the paving of roadways in the city freight yards of the Evansville & Terre Haute Railroad. The equivalent of twelve city blocks of street paving has been put down in the yards, and they assume a metropolitan air with the improvement. The expenditure, amounting altogether to \$20,000, was carried out upon the recommendation and under the supervision of General Superintendent J. O. Crockett.

NEW YORK, N. Y.—The Committee on Condition of the Streets, recently appointed at a conference of twenty-five public bodies, has addressed a letter to Mayor George B. McClellan in which the following specific requests are made:

First—As a preventive measure of very great and obvious importance, that the Police Department be directed to enforce the very clear and comprehensive provisions of law that forbid the unnecessary soiling or littering of the streets.

Second—That citizens be informed more adequately as to what is required of them and as to the penalties for offenses against these laws.

Third—That the working system of the Street Cleaning Department be thoroughly reorganized and that the Department itself be required to conform to all laws applicable to it; and

Fourth—That the asphalted pavements throughout the city be washed daily, and that the most improved type of flushing machines be secured for that purpose.

PHILADELPHIA, PA.—The Highway Committee of Councils will make a determined effort to cut down the mandamus payments for land damages for opening new

streets. To accomplish this, new streets, especially where the owners are the principal ones to be benefitted, as in building operations, will not be opened unless the owners first dedicate the necessary land. Chairman Ford, of the Highway Committee, had a conference with Mayor John E. Reyburn on the subject, when this policy was agreed upon.

#### Sewerage and Sanitation

ALLENTOWN, PA.—At a conference between delegates of the Plumbers' Union and the Sanitary Committee of Councils, Charles Benner, for the journeymen plumbers, declared that there were from 500 to 1,000 sewer connections in the city that violated the laws pertaining to such matters, many of them flagrantly so. He declared that there were a hundred defective connections within a stone's throw, almost, of the City Hall. The Sanitary Committee concluded that it could do nothing in the matter but report. The plumbers say they will take the matter to the Aldermen and the State authorities if necessary.

INDIANAPOLIS, IND.—Probably the largest system of sewers ever built in Indianapolis will be built by the city in the territory adjacent to East Michigan street. The making of the plans has taken the time of two engineers and one draftsman, besides the work of surveying gangs, for ten weeks, under the direction of Charles A. Brown, Deputy City Engineer, in charge of sewers. The sewer will be 5.4 miles long. It will be built of concrete or brick and pipe, ranging in size from 7 feet to 12 inches. The area drained will be 835 acres, and the cost between \$150,000 and \$200,000.

JERSEY CITY, N. J.—At a conference between Mayor Fagan and the Board of Health it was decided to establish a depot for the distribution of pasteurized milk in the basement of the City Hall. Later on other similar depots will be established, possibly in the basements of public schools. The idea at present is to make no charge for the milk. Dr. Ferdinand Lauer, Superintendent of the Bureau of Contagious Diseases, will have charge of the depots.

PHILADELPHIA, PA.—The Finance Committee has approved an appropriation of \$7,500 for the purpose of enabling the Department of Public Works to make investigations and prepare a comprehensive plan for collecting, purifying and disposing of sewage, as required by an act of the Legislature, recently passed. The system has been roughly estimated to cost \$25,000,000.

ROCHESTER, N. Y.—The city has the legal right to allow residents outside of the city limits to connect their houses with the Rochester water and sewerage works, according to the report of the Law Committee. In cases where sewer connections are made the property owner must pay such assessment for sewer privileges as may be levied by the city, not less than the tax imposed on residents of the city using the same sewer. Where city water is used the property owner pays for all piping and connections, a tax of one-half of one per cent. on the value of his property, and a charge of 20 cents per 1,000 gallons of water, as compared with 14 cents paid by city consumers.

SYRACUSE, N. Y.—Mayor Alan C. Fobes has received a letter from the State Department of Health notifying him of an order of the Department prohibiting the discharge of sewage into the waters of the Oswego River or its tributaries. This will make the construction of a dis-



posal plant, which has been under consideration for some time, imperative.

UTICA, N. Y.—Health Officer Peckham and Commissioners Johnson and Alliaume have made an inspection of the system employed by Rochester to protect its water supply. They found that the patrol of the water shed on Hemlock Lake is very efficient, and that particular care is taken to prevent contamination. Four men are constantly employed as patrolmen, at the city's expense. In view of what they learned in Rochester, the Commissioners think the proposed inspection of the Consolidated Company's water shed twice a year is entirely inadequate.

#### Water Works

ALBANY, N. Y.—The Fuller-O'Brian bill authorizing the State Water Supply Commission to make an investigation of the State's water power, was passed. This bill will provide for elaborate surveys and a report on the resources of the streams of the State, the plan being to have the State develop the power and sell it for the benefit of the State.

HAZLETON, PA.—Expecting to make vast improvements to its water sheds and reservoirs, located in Hazle Township, from which the City of Hazleton and the surrounding towns are supplied with water, the Hazleton Water Company, of Hazleton, has mortgaged all of its holdings to raise \$300,000, with which the proposed improvements will be made. The company intends to use the money for substantial improvements to its buildings, reservoirs, water sheds, streams and other holdings, all of which improvements will tend to better the service.

INDIANAPOLIS, IND.—The Indianapolis Water Company has purchased 152 acres of land, where it will build a storage reservoir about a mile and a quarter long and more than three-quarters of a mile wide at its narrowest point. The area will be 100 acres, the depth 15 feet, and the contents approximately 190,000,000 gallons of water. A dike will be built on the north, south and west sides, and a high bluff will form the eastern bank. The cost of the reservoir will be between \$90,000 and \$110,000. Five feet of the upper level of the water will be available without pumping. The high land included in the purchase will be laid out as a park, a boulevard will be cut along the top of the bluff, and several building sites of six or eight acres each are planned.

JACKSON, MISS.—By a vote of 907 to 68, the citizens voted to issue bonds for the purchase and extension of the water works. The question of filtration will be taken up at once. The present contract with the company holds good until May, 1909, but it has been understood that the present owners of the franchise are willing to transfer their title and interests to the city at any time the details can be arranged.

MINNEAPOLIS, MINN.—A plant for filtering the city water supply, costing perhaps a million and a half dollars, will be recommended by City Engineer Andrew Rinker. Mr. Rinker had just returned from the convention of the American Water Works Association, when he made this announcement. A committee has prepared exhaustive figures on the project, and the need for the filter has been confirmed in the City Engineer's mind by what he saw and heard at the convention.

#### Street Lighting and Electric Power

ALEXANDRIA, VA.—The report of the Light Committee shows that the sum of \$39,964.65 was received for gas sold from the municipal plant during the year. The net profits of the works for the year are stated to be \$15,500.

BUFFALO, N. Y.—The State Commission of Gas and Electricity has issued an order reducing the price of gas supplied by the Buffalo Gas Company from \$1 to 95 cents

per 1,000 cubic feet. The decision is regarded as a victory for the Buffalo Gas Company, as the city authorities contended that the price should be cut to 80 cents, or even 75 cents, and still allow a reasonable profit. Corporation Counsel Louis G. Desbecker believes that sufficient facts were brought out to warrant the Commission in giving an 80-cent rate, especially as other cities have as low rates—Boston, for instance, pays 80 cents; Cleveland and Toronto, 75 cents. The facts came out at the investigation that the company must earn \$300,000 yearly to pay interest on bonds alone; besides, it has \$9,000,000 of stock outstanding.

FRANKLIN, LA.—Franklin, one of the oldest settlements in the country, famous as the new home of the Arcadians in Longfellow's poem, will adopt one of the most modern of municipal institutions, an electric lighting plant. This works will furnish power for 25 arc lights and 40 incandescents for the streets, besides engaging to furnish current for house lighting and commercial purposes. The equipment will include Heine safety boilers, Harrisburg engines and Fort Wayne generators and apparatus. The plant, which is expected to be running in three months, is largely the result of Mayor J. C. Lewis' efforts. The contract for the equipment was awarded to Musalt & Co., New York City.

KALAMAZOO, MICH.—A large corporation, represented by Frank W. Armstrong, has asked the city for a thirty-year franchise to furnish electric power and heat. It will be the first plant of its kind to be erected in America, although it has been used in England; and in Madrid, Spain, an immense plant was opened two years ago, which is reported to have been very successful. The system is simply a gas producer plant and gas engines operating electric generators. Ten thousand horsepower will be installed, and an equal amount later. The system will cost about \$1,500,000.

PHILADELPHIA, PA.—City Council, by a decisive vote in both branches, has refused to adopt the ordinances providing for notice to the United Gas Improvement Company of the termination of the lease of the Philadelphia gas works, and for inviting bids for the remaining twenty years of the lease. Accordingly, gas will be furnished under the terms of the old contract. A reduction of 10 cents per 1,000 could be given consumers if the tax paid to the city of that amount for use of the works should be dispensed with.

MINNEAPOLIS, MINN.—The special Franchise Committee of the City Council has passed a resolution recommending to Council the Walker ordinance, which compels the Minneapolis General Electric Company to charge a maximum of 8 cents per kilowatt light and a 6-cent power rate. The decision to recommend the ordinance for passage marks the end of a long fight in the committee. For several months the Councilmen and the representatives of the electric company have been endeavoring to reach a satisfactory agreement. It is believed that the struggle is far from over, as the company intends to fight the ordinance, if it is passed, in the courts, on the ground that the rates are tantamount to a confiscation of property.

MOUNT VERNON, N. Y.—One of the final acts of the State Commission of Gas and Electricity was to hand down a decision in favor of Mayor Brush, who petitioned the Commission as a taxpayer, alleging that the prices charged by the Westchester Lighting Company for electricity were excessive and asked that the cost be reduced to a fair and equal basis. Accordingly, the rate has been reduced to 13 cents from the present rate of 20 cents per kilowatt hour. Arc lights now costing \$100 will be supplied for about \$60.

WILKES-BARRE, PA.—Revelations of a startling nature were made to the members of Councils by a letter received from Arthur Lewis, the inspector representing the Insurance Underwriters' Association, in which the Inspector informed the members of Councils that the City Building is one of the worst fire traps in the city because of its electric wiring, and because of this fact the entire city is placed at the mercy of flames in that a fire in the City Building would cripple the electric fire call system for weeks, and thus endanger every home in the city.

#### Fire and Police

ALBANY, N. Y.—Mayor Charles H. Gans and Edward B. Cantine, Commissioner of Public Safety, are moving a visit to Boston and Cleveland to inspect the fire alarm systems. In Cleveland they will inspect the Star manual system, which is reported by Mayor Tom Johnson to be giving satisfaction. In Boston the Pierce system will be looked over. Albany has appropriated \$20,000 for a new system, and on receiving bids, that of the Gamewell Company was found to be above the appropriation.

CINCINNATI, O.—Chief of Police Milliken, in his annual report, expresses doubt as to the value of patrolmen on bicycles. He favors the use of an automobile, to be kept at headquarters, to convey policemen rapidly to the scene of an accident or disturbance. He states that during the past year a number of incidents have occurred which demonstrated the need of such a vehicle.

PROVIDENCE, R. I.—Eight new playgrounds are about to be opened, and Mayor Patrick J. McCarthy, acting as Chairman of the Summer Playgrounds Committee, has asked the Police Commissioner to supply a policeman for each playground. The Mayor states that it is absolutely necessary in order to carry on successfully the scheme for caring for the children to protect them from outside interference by giving them the protection of the law.

ROCHESTER, N. Y.—Under the guidance of Commissioner of Public Safety Gilman, the Mayor and other city officials have made a formal inspection of the new Gamewell fire alarm telegraph system. The system is said to be one of the most complete and fastest in the country. One of the good points of the system is that the receiving apparatus is so arranged that the men are not awakened at night unless the alarm is from a box to which the company responds. The apparatus room, about 40 feet square, contains switch boards, registers, recording and testing machines and other appliances. There are 34 circuits in all.

SYRACUSE, N. Y.—The annual parade of the Bureaus of Fire and Police, held June 27, was reviewed by Mayor Alan C. Fobes and other city officials, officers of the Chamber of Commerce and invited guests, including Mayor William Cardwell, of East Orange, N. J. The police drill, under Lieutenant of Police Jacob Warner, was held in Clinton Square. The firemen's parade, under Chief Engineer John P. Quigley, was held in Fayette Park. During the parade two fires, which were extinguished by companies assigned for the purpose, occurred. This contingency had been provided for by stationing along the line of march members of the fire alarm telegraph corps to catch the alarm if one should be sent in from those circuits. The Superintendent of the Fire Alarm System was stationed at the house of Engine Company No. 1 to receive telephone alarms. He was provided with a runabout, and as soon as he learned the location of a fire he notified the Chief, who delegated the companies to respond. This was the first time in several years that a fire alarm had been sent in during an inspection and parade. The demonstration of the efficiency of the precautions was commented on favorably.

#### Government and Finance

ALBANY, N. Y.—In its certification to the local authorities of the special franchise tax assessment, the State Board of Tax Commissioners announced an increase this year of \$125,543,733 over last year. The total assessments for this year are \$546,092,992, as against \$429,549,259 for 1906. The assessments and increase in cities include those of:

	1907 Final Assessment	Increase
New York (Greater) .....	\$466,855,000	\$105,375,700
Buffalo .....	17,827,550	4,239,350
Rochester .....	10,168,000	1,869,325
Syracuse .....	6,079,725	1,052,500
Schenectady .....	1,602,400	658,700
Utica .....	2,161,950	552,950
Troy .....	2,366,950	374,000
Binghamton .....	760,500	187,500
Elmira .....	1,181,425	145,125
Jamestown .....	575,200	98,140
Poughkeepsie .....	405,900	82,300
Gloversville .....	335,700	41,000
Johnstown .....	132,475	15,225

BUFFALO, N. Y.—The Wabash Railroad has demanded the return of \$901,000 paid to the city for a large tract of land, known as the Hamburg Canal strip, purchased from the city several months ago for terminals, maintaining that the city has not delivered a clear title, has refused to approve plans for altering existing viaducts, and that the New York Central maintains tracks across the property.

DES MOINES, IA.—By a vote of 6,044 to 4,133 the citizens adopted the commission plan of city government. Under the form adopted all but five elective officials have been abolished, namely, a Mayor and four Aldermen, who compose the Council, and each of whom will be an executive officer of a city department. These officials will be nominated at a non-partisan primary, the names of the two highest candidates being placed on the ballot. All officers will be appointed by Council, and their subordinates by civil service rules. There will be no secret sessions of Council. The Mayor's salary is \$3,500; an Alderman's, \$3,000. Franchises to public service corporations must be approved by popular vote. Every proposed ordinance or contract must be open for public inspection seven days before passage. Any ordinance may be challenged within ten days of passage, and, if 25 per cent of the voters so petition, must be submitted to a popular vote of approval. Monthly accounts and summary of proceedings must be published. The Mayor or an Alderman may be removed at any time by a petition and vote. Legislation may initiate with the people by petition.

NEW BEDFORD, MASS.—The special Council Committee on Municipal Accounts has received a report from Harvey Chase & Co., of Boston, on the reorganization of the city accounts in accordance with the "uniform system," recommended by the United States Census Bureau. The changes advised are: That the City Auditor's office be made the general accounting office of the city, in which the general ledger and other summarizing books are kept; that the City Treasurer's office be carried on as that of a receiving and disbursing office, interested solely in cash transactions; that all accounts receivable be recorded in the Auditor's books, and for this purpose the Auditor should receive duplicates of all bills, and reports of all collections should be made to him; that all accounts payable shall be entered by the Auditor upon his books and charged against the appropriation accounts of the various departments, and credited to "accounts payable" and "payrolls payable" accounts; when these accounts are actually paid the Treasurer shall report to the Auditor, who shall credit the Treasury with the accounts paid and debit the same to the "accounts payable" and "payrolls payable" accounts.



NEW YORK, N. Y.—The assessment roll of the city, submitted by the Commissioners of Taxes and Assessments to the Board of Aldermen, shows an increase of \$501,993,357, or 8.8 per cent., over last year. As the borrowing capacity of the city is limited to 10 per cent. of the valuation, the increase in the debt limit is considerable. The total assessment of personal property has decreased, owing to a continuance of the policy adopted last year of cancelling old assessments when it was clear that no taxes could be collected from the persons assessed. The tax rate will be a small fraction higher than last year—probably \$1.479 on the \$100. The real estate assessments by boroughs, with the increases over last year, follows:

	REAL ESTATE	
	1907	1906
Manhattan .....	\$4,391,970,951	\$4,105,362,281
Bronx .....	396,687,730	355,779,602
Brooklyn .....	1,181,221,910	1,072,007,172
Queens .....	217,668,775	159,446,205
Richmond .....	52,931,236	45,901,985
Total .....	\$6,240,480,602	\$5,738,487,245
		\$501,993,357

NORTH HUDSON, N. J.—The Tax Assessors of Hudson County, in the course of their duties in enforcing the State law to the effect that property shall be assessed at its full value, have found some amazing conditions. In one of the small towns a dilapidated cabin was found which the County Assessors considered worth scarcely \$500. Adjoining it was a handsome residence with beautiful grounds, worth perhaps \$10,000. The local assessors had taxed the cabin for \$700 and the house for \$1,400.

MADRID, IA.—Municipal affairs of Madrid have reached a climax, and Governor Cummins has been called upon to fill the vacancies created by the resignations of five out of the six Councilmen of the city. Because of the poor pay, the rate being only 50 cents for each meeting, five of the six members resigned. The remaining member was unable to elect successor because he could not get a second to his motion, and city business has been suffering.

WEST NEW YORK, N. Y.—The Board of Council, meeting as a committee of the whole in conjunction with a delegation of representative property owners, endeavored to ascertain the whereabouts of the profile and specifications of the Eighteenth and Polk street sewers, which tax-payers requested to see in order to satisfy themselves about their sewer assessments. It appeared that the only copy of the profile and specifications had been placed in the tool-box of the contractor, and that they had disappeared. The bids and papers pertaining to the improvement were also missing, and are supposed to be among the papers of the former Town Attorney, who is now dead.

#### Refuse Collection and Disposal

BAY CITY, MICH.—There is a popular demand for some means of keeping the dust laid on the brick pavements, and many requests have been received from citizens urging the Aldermen to consider the proposition of the extensive use of a sprinkling fluid which the city has been experimenting with. Where used the relief has been noticeable. While some tracking of dust into stores has been complained of, it is believed this can be avoided by the use of finer sprinklers. The Robert Gage Coal Company has offered the fluid, which is understood to be a mixture of calcium carbide and water, to the city in tank-car lots for one-half cent per gallon.

BRUNN, GERMANY.—During the past year the destructor plant at Brunn burned 7,191,540 kilograms of waste, evaporating with it 7,436,605 kilograms of water, an average of 1.03 kilograms of water per kilogram of waste.

CINCINNATI, O.—The work of the Street Cleaning Department is improving, according to Superintendent Neave, and this without any increase in expense. Chief among the causes that have led to this result is the instal-

lation of 600 refuse cans about the city. As these average more than half full daily, a great saving in labor to the Department is effected. In some instances garbage has been found in the cans, and some means will have to be found to prevent this. Now all paved streets are cleaned once a week, and most of them twice a week. This improvement has been brought about by the use of flushing machines. Actual experience has shown that there is less trouble from sewers being stoppered up since the flushing machines were used than formerly. The reason for this is that when a shower comes there is less dirt to be washed into the sewers at one time, and consequently less danger of stoppages. This item of expense costs the city \$20,000 yearly, a sum that might be saved by the use of gratings at the inlets.

KNOXVILLE, TENN.—Two propositions for cleaning the streets of the city and for taking care of the garbage have been submitted to Council by C. M. Barber, representing the Knoxville Sanitary Company. For taking care of the garbage the company bid \$35,000 per year. For cleaning the streets where they are swept every day, 55 cents a day for 10,000 square feet every day, 55 cents for 10,000 square feet where the streets are cleaned every other day, the streets to be sprinkled before being swept. The Sanitary Department is now costing the city only \$17,000 per year. The paved district laid and under contract aggregates approximately six miles, of which about two miles is in the business section and four miles in residence sections. There are approximately twenty blocks to the mile, and each block contains approximately 10,000 square feet of paving. At the proposed rates, it would cost about \$7,000 a year to clean the business district daily, except Sundays. To clean the residence paved streets three times a week would cost, at the proposed price, about \$8,000. Thus the cost of cleaning the entire paved district would be about \$15,000 a year. Added to this the \$35,000 per year for disposing of the city garbage, makes the proposition of the Knoxville Sanitary Company amount to practically \$50,000 a year.

PASSAIC, N. J.—Dr. Hiram Williams, Health Officer, in his annual report recommends incineration as the proper method of garbage disposal to be adopted by the city at the expiration of the present contract in March, 1910. During the past year many complaints were received, and in one instance the matter had to be taken into the courts. As long as the present obsolete methods are pursued, says Dr. Williams, just so long will there be dissatisfaction and complaints.

PORTLAND, ORE.—Portland has a garbage trust. By this organization a district is assigned to each collector and his teams, and the cost of collection has been raised from \$1 to \$1.50 monthly. In some instances residents have refused to pay the additional charge and the collectors have refused to remove the garbage. The South Portland Improvement Association has appealed to the city to undertake the work and suggests that the price charged several years ago of 50 cents monthly is sufficient.

SCHENECTADY, N. Y.—The Board of Contract and Supply is now considering the advisability of erecting a municipal garbage plant, as the bids received are considered very high. Two plans are under consideration: The first for the erection of a plant and the letting of the contract for collection; the second advocating the performance of the entire work by the city. Mayor Clute states that, as a result of investigations and conferences with experts, by the use of the incinerating process, the city can do the work for half of the price named in the bids.

### Parks and City Beauty

EAST ORANGE, N. J.—The new Playgrounds Commission has prevailed upon the East Orange City Council to purchase the Orange Oval to be used as a playground. The cost of the oval is \$45,000, and just as soon as the sale can be put through the oval will be improved and enlarged, and will be made into one of the finest playgrounds in this section.

NEWBURGH, N. Y.—A petition to the President and the Congress of the United States for a National Park in the Highlands of the Hudson River has been placed in Washington's headquarters for the signature of the general public. The argument is that as the Hudson was the scene of many struggles during the Revolution, the events that occurred there deserve commemoration by the establishment of a National Park, just as much as the scenes of battles of the Civil War.

ROCHESTER, N. Y.—After considerable discussion the City Parks Committee continue the custom begun last year of requiring park employees to wear white duck uniforms. Commissioner Wallis favored the white suits because the men could be more easily seen and distinguished from visitors.

SUPERIOR, WIS.—Mayor Victor Linley has sent a communication to the Common Council in which he approves action taken at a former meeting authorizing the Park Commission to establish a central common and playground. The Mayor desires to have the city establish playgrounds in every ward and provide them well with apparatus, and to have the playgrounds near each public school, so that they can be, to a certain extent, under the supervision of the school officers.

WORCESTER, MASS.—The city has been notified by A. H. Kirkland, of the Gypsy Moth Commission, that gypsy moths have been found on some trees on Hobe avenue, which are the property of the city. According to Superintendent Hemmingway, of the Parks Commission, it is the first time the moths have appeared in Worcester. Under the statute the owners must take immediate steps to prevent the spread of the moths, if they fail to do this the city must do the work and assess the cost on the property owner. In this instance the city will spray all trees in the neighborhood, charging the cost, about \$100, to park maintenance.

### Rapid Transit

BOSTON, MASS.—Double escalators are to be established at the Old State House subway station for the Washington street tunnel. They will furnish the people of Greater Boston with the first moving stairway ever at their service in connection with public traffic accommodations. That they are a great advantage over elevators has never been questioned, as they prevent a crush during the rush hours and do away with the necessity of waits in changing levels.

CHICAGO, ILL.—Plans for a subway system as a rival to the surface and elevated roads of Chicago have been perfected, and, if put through, the promoters declare it will give the city rapid transit facilities equal if not superior to those of New York City. As to the final plans of the underground system, it is understood that branch lines will extend to the west side, the Milwaukee avenue district, the north shore, Englewood, Hyde Park and Woodlawn. A blanket franchise from the city is asked. The company is known as the Chicago Subway Arcade & Traction Co.

JERSEY CITY, N. J.—After a trip of 813 miles, from Dayton, O., the Gantz steam motor car arrived at the Erie station, Jersey City. No attempts at high speed were made, a 15-mile-hour schedule being maintained.

The car will next be put on trial on suburban service on some of the Erie Railroad's short runs. The car has seats for thirty-eight in the main compartment, a smoking room for ten and a baggage room. A Gantz steam generator, 120-horsepower, occupies a space at the front of the car six feet long. The car is driven by two steam motors mounted on the front truck and operated independently. The car weighs forty-five tons in complete working order.

NEW YORK, N. Y.—Chief Engineer Lewis, of the Board of Estimate, has sent a report to the Mayor on the Brooklyn tunnel. Mr. Lewis assures the Mayor that the tunnel is safe and that the running of experimental trains through the tunnel before it is opened for public traffic will demonstrate this. About 500 feet of the tubes where they rested in silt and sifting sand settled in places and had to be restored to true grade. The piling to support this part of the tunnel is nearly all in.

### Miscellaneous

ATLANTA, GA.—That a strong fight is going to be made against the proposed prohibition laws introduced in the Legislature was evidenced at a recent meeting of the City Council when a strong resolution was adopted memorializing the State Legislature to defeat the efforts being made to put the State under a prohibition system. Whether or not the lead taken by the municipality of Atlanta will be followed by any of the other cities of the State remains to be seen, but it is certainly made clear now that this city is strongly anti-prohibition. Even here, however, the vote was not unanimous, only 13 members of the Council voting against its passage and five refusing to vote one way or the other, leaving, however, a majority of two members, had those who refused to vote been prohibitionists, which is not the case.

CLEVELAND, O.—The records of the Cleveland Smoke Inspector's Department show that there are 800 boilers equipped with mechanical stokers; 400 with automatic devices and so-called smokeless furnaces, and 500 that use smokeless coal. In the aggregate, these 1,700 constitute 70 per cent. of the 2,400 boilers in the city, and as they include most of the larger plants, it is probable that about 75 per cent. of the city's horsepower is equipped with smoke preventing devices. It is true, however, that the smoke nuisance has not been diminished 75 per cent. by the installation of these devices.

DETROIT, MICH.—After a stormy debate the Detroit Aldermen passed the first saloon districting ordinance in the history of the city, with the proviso that the ordinance should not be construed to apply to any saloon now being conducted or maintained within the territory described.

HAMILTON, O.—Hamilton's city building has been practically condemned by State Inspectors C. B. Baker and Ralph C. Shipman, who found the north wall bulging, the joists of the second floor weak and the building generally in bad shape. They ordered five big safes on the second floor moved immediately, otherwise the entire building will be condemned.

VIENNA, AUSTRIA.—Having municipalized funerals the city authorities are now introducing a system of burial insurance, covering the funeral expenses and the purchase of the grave. The insured must be between the ages of 18 and 50. The insurance is divided into ten grades, the premium ranging from 8 cents to \$1.80 a month. Additional insurance for a monument ranges from 20 cents to \$3.80 a month. Since the city already owns stone quarries, it is anticipated that the next municipal ownership move will be the creation of municipal tombstone works.



## LEGAL NEWS

### A Summary and Notes of Recent Decisions—Rulings of Municipal Interest

#### DAMAGES CAUSED BY SEWERS

**Bernard Gravey vs. New York City.**—Water and sewage flowed from a sewer which was constructed above ground upon the plaintiff's premises. There was a break in the sewer, and the flooding was in consequence of it. The court held that when the destruction or dilapidation of a sewer is the result of ordinary use, which ought to have been anticipated and could have been guarded against by occasional examination and cleansing, the omission to make the examination and keep the sewer clear is a neglect of duty, which renders the municipality liable for injuries. As the injuries to the plaintiff's premises were caused by a break in the sewer by reason of the negligence and carelessness of the defendant in maintaining the sewer, the plaintiff is entitled to recover.—Appellate Division Supreme Court, New York.

#### EMINENT DOMAIN

**Bacon vs. New York City.**—Bacon, the owner of some lots, appealed from an order of court confirming the report of the Commissioner of Estimate and Assessment, his grievance being that the Commissioner refused to include in their award, compensation for a building. The court held that as the title to real estate remains in the owner until it is actually taken by eminent domain, the owner may recover compensation for the taking of buildings erected thereon by him after the beginning of condemnation proceedings, even though they were built for the purpose of recovering compensation from the city. The question of good or bad faith in moving a building to the land for the purpose of securing compensation is immaterial, but in making the award the Commissioner may consider the cost of again moving the building back onto portions of the property not taken.—Appellate Division, Supreme Court of New York.

#### COMPENSATION FOR OFFICERS

**Stephens vs. City of Oldtown.**—The court held that a public officer for the performance of his official duties is entitled to such compensation only as is fixed by law for that office. If no compensation has been fixed he is not entitled to any.—Supreme Court of Maine.

#### INTERSTATE TRAFFIC IN WATER

**Attorney General vs. Hudson County Water Company.**—A statute of New Jersey provides that "it shall be unlawful for any person or corporation to transport through pipes, conduits, ditches or canals, the waters of any fresh water lake, river or stream of this State into any other State for use therein." The Hudson County Water Company was the owner of certain water mains connected with works of the East Jersey Water Company, which diverted water from the Passaic river above Paterson. The Hudson County Water Company having control of the mains at Bayonne, made contracts for supplying water on Staten Island, in New York State, through mains to be constructed under the Kill von Kull. The defendant company, in an action to restrain it from taking water outside of the State, objected that the act referred to was unconstitutional. The company also objected that the act was contrary to the 14th Amendment, and also the State Bill of Rights, which declare that all men have the inalienable right of acquiring and selling property. The act was sustained by the court, which further held that the Bill of Rights did not guarantee the right of acquiring property in anything not the subject of private property, nor in the right of disposing of property not legally acquired; while the act does not prohibit the owner of water from selling it freely, but prevents the acquisition of ownership in flowing waters for transportation outside of the State. Looking at the powers of the East Jersey Company, upon which the question of ownership of the water would depend, the court says that assuming that by the company's charter the consent of the State was given to the depletion of the natural flow of the Passaic river, still such consent could not be deemed authority for depletion from transporting water outside of the State, since such transportation was unknown when the Corporation act was passed. If the act had a wider meaning, it was revocable until acted upon, and the statute cited mollified it. Hence the company had no right from its charter to make the water an article of commerce as proposed. The fact that the East Jersey Company is a riparian owner gives it no greater right, by the common law, to diminish the flow of the river by transporting it beyond its land. Hence the water was not properly a sub-

ject of commerce, and the act is not obnoxious to the interstate commerce clause of the Federal Constitution.—Court of Errors and Appeals of New Jersey.

#### INVALID IMPROVEMENT ASSESSMENT.

**O'Reilly vs. Kingston.**—Three neighboring streets were ordered improved under separate ordinances. The plaintiff owned a majority of the property on two of these streets and none on the third. In letting a contract, the work specified to be done under three grading ordinances and one sewer ordinance was lumped in a single sum and awarded to the lowest bidder. Upon the completion of the work, the Council assessed 75 per cent. of the cost of the work upon the district in which the property benefited was located. At the proper time, the relator filed objections, stating that the assessment was not made in accordance with the provisions of the charter, because bids were not received for the work specified in each ordinance; that the cost of the work differed on the streets on account of the character of the streets and the soils. The City Council in separating the cost of the work into four items, one for each of the improvements, the Common Council acted upon a statement furnished by the contractor to the City Engineer, together with the plans, specifications and estimates made by the City Engineer. The city charter requires that the cost of grading be assessed upon "property fronting on" the streets, and in the case of a sewer "upon property immediately benefited thereby." The court held that by the consolidation of four improvements into one, the expense of each could not be determined by its actual cost, but was merely estimated. The cost of assessing a sewer, assessable upon one principle was commingled with the cost of grading, assessable upon a different principle. The cost of grading a street upon which the complainant had no property was commingled with the cost of grading two streets upon which she had property. The assessment, therefore, must be annulled. The court stated, however, that while the law requires this adjudication, the result will be unjust if the relator should escape taxation altogether. The city may have a remedy, for if the Legislature in the first place could have authorized everything to have been done as it was done, a curative act may be passed which will prevent the injustice of throwing the entire expense of the improvement upon the city at large.—Court of Appeals of New York.

#### AUTHORITY FOR CITY LIGHTING

**Overall vs. City of Madisonville.**—It is clearly within the police power of cities, even without express authority, to provide public lighting of their streets at the public expense; that when a city is given the power, either expressly or by necessary implication as an incident to its police power, to light its streets, and where the precise method is not expressly provided, it may either hire another to furnish the lights or it may furnish its own lights, the power to do the thing unreservedly giving the city discretion in the choice of the means it will adopt; that the lighting of the public streets and places is a purely governmental matter, and a city having the right to build and operate its own lighting plant for governmental purposes may sell its surplus product to citizens or elsewhere, and that in the matter of buying and installing a lighting plant the city is left wholly to the judgment of its Council as to the kind and cost of a plant, and when and where it shall buy and how much at a time, there being only one limitation upon the city, viz., that it shall not become indebted beyond the income and revenues of the year without the assent of two-thirds of the electors voting on the question.—Court of Appeals of Kentucky.

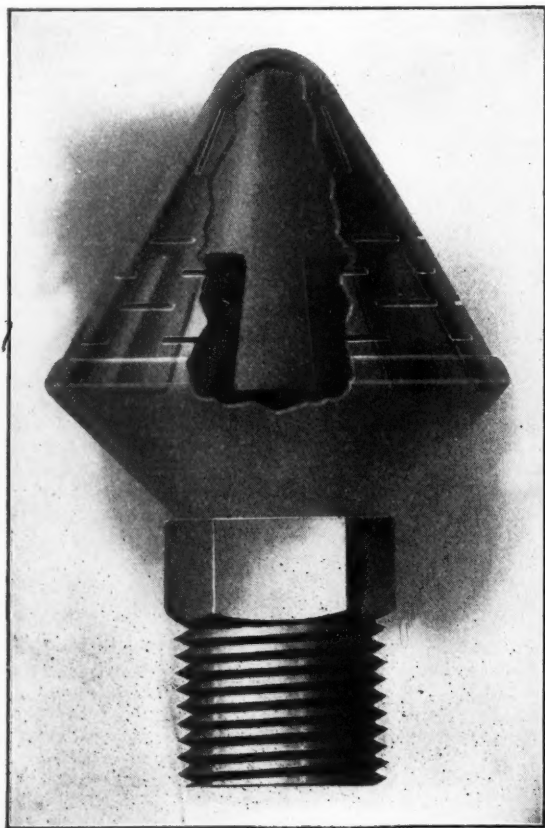
#### TRACKAGE RIGHTS OF INTERURBAN COMPANIES

**Kinsey vs. Union Traction Company.**—The interurban railroads won in the Supreme Court on the main proposition that the use of the streets by their cars is no more an "additional servitude" than their use by the city street cars, as long as they are operated within the city like street cars. But the court holds that whatever special damages they inflict on adjoining property by running so fast as to shake down houses, or by the improper operation of their cars in other respects, must be paid. All of the judges express the opinion that interurban cars cannot be excluded from the streets by abutting owners, the owners having a right, at most, to recover damages. The decision was by a majority only of the five judges, two of them contending that the mere use of the streets by interurban cars gives adjoining owners a right to damages as in the case of steam railroads. The fact that "freight" or express cars are run by the interurban railroads is discussed at length, but is held to make no difference in their right to use the streets.—Supreme Court of Indiana.

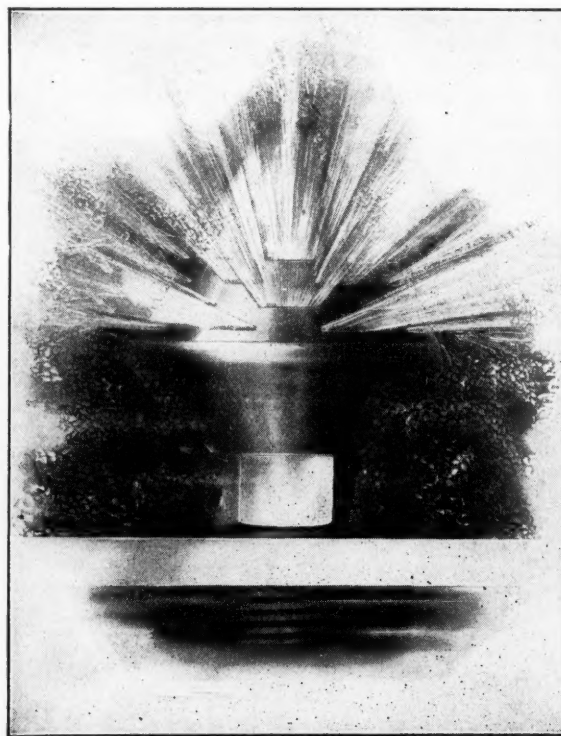
### STRAINER FOR MECHANICAL FILTER

INsofar as suspended matter is concerned, both slow and rapid sand filters are largely strainers, and the matter removed from the water is retained on and in the sand; in the slow filter, however, the matter ordinarily penetrates to a depth of less than an inch and is scraped from the surface from time to time; while in the rapid filter the greater velocity of the water carries this matter into the entire body of the sand, and the cleaning thereof requires some special devices. Among the devices upon the market for this purpose, perhaps the oldest are mechanical rakes which stir up the sand while a flow of water is passed in the reverse direction through the filter, carrying the contained dirt with it. Another plan is the introduction of air throughout the sand bed at the same time that the reverse current of water is passing through it. Still a third method is the use of a strainer adapted specially to cause the wash water to perform the necessary agitation, the requirement being that the wash water shall pass through all parts of the filter bed, and not simply escape through vertical channels formed in the sand. Of the many strainers which have been put upon the market the greater number have been circular disks of perforated metal, the perforations being either round or narrow rectangular holes. As strainers, these are satisfactory in preventing the sand from passing out with the filtered water, but most of them are not successful in properly distributing the wash water and giving it sufficient velocity, which are of great importance. In order to reduce to a minimum the head necessary for forcing the filtered water through the strainers, the combined area of the openings

is generally made many times larger than the area of the outlet pipe from the filter, and the difficulty of giving a high velocity to the wash water when passing it through these openings is apparent. An endeavor to meet this difficulty has been made by William B. Scaife & Sons Co., of Pittsburg, Pa., by means of a strainer, which is illustrated herewith. It consists of an inner and outer cone, the inner cone being movable and of such shape that the openings in the outer cone are partially closed off when washing. The number of openings which are closed off can be adjusted in each particular case so that the area discharging water into the filter bed can be accurately fitted to the size of the washout pipe. The inner cone is held in place when washing by the pressure of the wash water, as the stream entering the strainer strikes the closed portion of this cone, thus holding it firmly in place. This strainer has an ample area of openings to deliver the filtered water, but, when washing, the inner cone reduces the area of the slots in the outer cone so that the combined area of all the strainers is a little less than the area of the pipe through which the wash water is introduced. In this way it is claimed that a uniform pressure can be maintained in each individual strainer and a high velocity be given to the wash water through the openings, which are arranged to give a radial discharge, and thus insure a thorough washing of every part of the sand bed. These strainers are used in the water filters and also the Scaife and We-Fu-Go water softening and purifying systems of the manufacturers.



STRAINER FOR MECHANICAL FILTER



STRAINER IN USE FOR WASHING FILTER

**Iron.**—The International Steam Pump Company has issued an inquiry for a total of 3,500 tons of iron for delivery beginning in July for its plant in Harrison, N. J. The iron is divided into two lots, 2,000 tons of which are to analyze approximately 2, and the remaining 1,500 tons is high silicon iron.



## NEWS OF THE SOCIETIES

**American Institute of Electrical Engineers.**—The twenty-fourth annual convention of the American Institute of Electrical Engineers met at Niagara Falls, N. Y., June 25-28. Mayor A. C. Douglass delivered an address of welcome, to which President Samuel Sheldon responded. The Institute, which was organized in 1884, when the electrical industry was in its infancy is in a prosperous condition. Now all branches of electrical engineering are represented in its membership, which number 4,224, of which 3,652 are residents of the United States and 572 residents of foreign countries. England and Scotland have 142 members and Canada has 126. There are but two honorary members in the entire association and they are Sir William Preece and Lord Kelvin, both of London, England. The members proper number 522 and the associate members 3,700. The membership has more than doubled in the past four years. Regular monthly meetings are held in New York City for the presentation of technical papers and other meetings are held in the principal cities of the United States and Canada at intervals. At this meeting twenty-four topics were treated of in papers or reports. Among the social entertainments of the meeting was a trip around the gorge, an afternoon trip to the Natural Food Company's plant where tea was served, and an automobile ride for visiting ladies.

**Western Society of Engineers.**—Mr. Isham Randolph, Chief Engineer of the Sanitary District of Chicago, at the meeting of the society on June 26, gave an address of the works under construction and contemplated south of the controlling works of the Drainage Canal at Lockport, Ill. Mr. Randolph stated that he first studied the question of developing power from the canal during a vacation, which he spent at Niagara Falls. When he presented the matter to the Drainage Board he was censured for introducing extraneous matter. Later, however, the Board came over to his view of the importance of the subject. The speaker described at considerable length the equipment of the 50,000-horsepower power house at Lockport and the tear trap dam, which is practically a steel lock gate 180 feet long, pivoted in the middle, which will only be used when the power plant is in service to allow the escape of water through its present channel in the event of danger to the town of Joliet at times of high water.

**Pacific Northwest Society of Engineers.**—The fifth annual convention of the society, held at Tacoma, Wash., June 20-22, was considered as the most profitable meeting ever held by the society. One of the most interesting events was the inspection of the power plant at Electron. An interesting address was given by Mr. James T. Jones, of the Tacoma Smelter Company, on the effects of certain acids on concrete. Mr. C. B. Lament, of the Pacific Engineering Company, spoke in favor of working for legislation to provide for the examination and licensing of civil engineers. No formal action in the matter was taken. Before the meeting adjourned resolutions were adopted endorsing the excellent papers on "Civil Improvements," read by City Engineer Thomson, of Seattle; "Macadam Roads," by Engineer A. L. Valentine, of Kings County, and the address made by M. E. Davis, of the Hassam

Paving Company; Superintendent Jones, of the smelter, received a vote of thanks for courtesies extended. The next annual meeting will probably be held in Bellingham.

**Society of Chemical Engineers.**—At the meeting of the American Society for Testing Materials at Atlantic City, N. J., the question of forming a society of Chemical Engineers was taken up. The meeting was called to order by Mr. Richard K. Meade, editor of the *Chemical Engineer*. It was suggested that such a society might, by the appointment of committees, solve many problems of engineering chemistry, under the field of applied chemistry, to the point where chemical plants will be designed, as far as the chemical features go, by chemical engineers. In the discussion the term chemical engineer was defined as "a chemist or mechanical engineer who designs and constructs plants of a nature requiring a thorough fundamental knowledge of applied chemistry." A committee of five was appointed to consider the advisability of forming a society. The following gentlemen were appointed: Prof. J. C. Olsen, Mr. A. D. Little, Mr. Richard K. Meade, Prof. Wm. H. Walker and Mr. William B. Booth.

**Engineers and Constructors' Club.**—This society is made up of engineers connected with the organization of Dodge and Day, Philadelphia, Pa. The object to discuss subjects connected with their work. The proceedings of the club, including papers and discussions, will be published. The officers of the club are: President, Harold T. Moore; Secretary, George Walters; Managers, F. C. Andrews, H. S. Sanville, John E. Zimmerman, C. N. Sauer.

## Calendar of Meetings

- July 5-6. **Texas Mayors' Association.**—Convention, Amarillo, Tex.—Tom W. Perkins, McKinney, President.
- July 8. **American Society of Civil Engineers.**—Annual convention, Mexico City.—Charles Warren Hunt, Secretary, 220 West 57th street, New York City.
- July 15-17. **International Acetylene Association.**—Convention, Washington, D. C.—L. S. Bigelow, 265 Broadway, New York, Secretary.
- July 16-18. **Illinois State Firemen's Association.**—Tournament, Kewanee, Ill.—Walter E. Price, Champaign, Ill., Secretary.
- July 17-19. **National Electrical Contractors' Association.**—Seventh annual convention, New York City.—J. C. Hatzel, Chairman, 571 Fifth avenue, New York, N. Y.
- July 29-Aug. 1. **South Carolina State Firemen's Association.**—Convention and tournament, Anderson, S. C.—R. S. Hood, Sumter, S. C., Secretary.
- July 29-30. **Western New York Firemen's Association.**—Convention and tournament, Batavia, N. Y.—Charles F. Foley, Lockport, N. Y., Secretary.
- July 30-31. **Illuminating Engineering Society.**—First annual meeting, Boston, Mass.—Dr. A. H. Elliott, Secretary, 4 Irving place, New York City.
- August 6-8. **American Association of Park Superintendents.**—Annual convention, Toronto, Ont.—F. L. Mulford, Secretary, Harrisburg, Pa.
- August 7-9. **The International Association of Municipal Electricians.**—Annual convention, Jamestown Exposition, Norfolk, Va.—F. P. Foster, Secretary, Corning, N. Y.
- August 20-23. **New York State Firemen's Association.**—Convention, Elmira, N. Y.
- September 11-13. **New England Water Works Association.**

—Annual convention, Springfield, Mass.—William Kent, Secretary, Narragansett Pier, R. I.; Office, Tremont Temple, Boston, Mass.

September 17-19. **American Society of Municipal Improvements.**—Annual convention, Detroit, Mich.—George W. Tillson, Secretary, 13 Park Row, New York City.

September 17-19. **League of Iowa Municipalities.**—Tenth annual convention, Council Bluffs, Iowa.—T. G. Pierce, Secretary, Marshalltown, Ia.

September 19-21. **League of American Municipalities.**—Annual convention, Jamestown Exposition.—John MacVicar, Secretary, Des Moines, Ia.

October 8-11. **International Association of Fire Engineers.**—Thirty-fifth Annual Convention, Washington, D. C.—James McFall, Secretary, Roanoke, Va.

October 14-18. **American Street and Interurban Railway Association.**—Annual convention, Atlantic City, N. J.—B. V. Swenson, Secretary, Engineering Societies Building, 33 West Thirty-ninth street, New York.

November 19. **National Municipal League.**—Annual convention, Providence, R. I. (in conjunction with the American Civic Association).—Charles Y. Bonaparte, Secretary.

## PERSONALS

ARBUCKLE, WILLIAM R., of Bayonne, N. J., has been appointed Superintendent of the Police and Fire Alarm system, at \$1,500 per annum, vice William H. Kernan.

ARNOLD, V. E., has been made manager of the New York office of the Pittsburgh Meter Company, of East Pittsburgh, Pa., opened recently in the Singer Building, Broadway and Liberty street.

ARRANGUO, LUIS B., Special Engineer of the Water Works of San Luis Potosi, Mexico, is visiting the United States to make a study of filters and purification systems.

BRADLEE, HENRY G., has become a member of the firm of Stone & Webster, engineers and contractors of Boston, Mass., which heretofore was composed of Charles A. Stone, Edwin S. Webster and Russell Robb.

KIRTLAND, LYNN, Mayor of Sistersville, W. Va., and other city officials recently visited Mansfield, O., to inspect the new sewage disposal plant, it being the intention of the West Virginia municipality to construct a similar plant.

MAGEE, LOUIS J., Electrical Engineer of New York City, died recently, aged forty-four years; he was a Wesleyan graduate and spent many years in Europe, where he constructed the first electric tramway on the continent, and was the organizer of the *Union Electritats Gesellschaft* and a writer of ability.

McLELLAN, DR. EDWARD A., of Bridgeport, Conn., who had illegally held the position of Health Officer for six years, owing to the failure of city officials to abide by the general statutes of the State governing appointment, has been appointed Health Officer for a term of four years by County Health Officer George E. Hill, as "a vacancy has existed in said office for thirty days," without an appointment by the Mayor.

MORRIS, C. T., Civil Engineer of Columbus, O., is considering an offer of the Commissioners of Muskingum County, Ohio, to examine the condition of the Fifth street bridge at Zanesville.

STACY, GEORGE O., of Gloucester, Mass., has been nominated and confirmed as Park Commissioner.

WELLS, EDWIN M., of Syracuse, N. Y., member of the law firm of Barnum, Spicer & Wells, who served as Secretary of the Onondaga Creek Commission, has been tendered the position as Secretary of the Intercepting Sewer Board of Syracuse, N. Y., by Chairman Edward Joy.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

### BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>Street Improvements</b>				
Tennessee	Knoxville	July 11, 9 A.M.	Paving portion of Johnson alley.	W. O. White, Chm. Bd. Pub. Works.
Illinois	Chicago	July 11, 10:15 A.M.	Asphalt paving, 12 contracts; blast furnace slag 2, brick and granite blocks, one each.	Board Local Improvements.
Indiana	Sullivan	July 11, noon	Bldg. macadam road, 19,933 ft. long.	E. E. Russell, County Auditor.
South Carolina	Charleston	July 11, noon	Furnishing creosoted lumber and rubble stone.	Capt. G. P. Howells, Eng'r Corps.
Iowa	Cedar Falls	July 11, noon	Brick paving on macadam, 15,600 yds.; curb, 3,600 ft.	W. H. Merner, Mayor.
Ohio	Columbus	July 12, noon	Constructing asphalt repair plant.	Henry C. Maetzel, City Engineer.
Michigan	Hudson	July 12, 2 P.M.	Paving 9,000 sq. yds. curb, drainage, etc.	Riggs & Sherman, Toledo, O., Engrs.
Indiana	Petersburg	July 12	Building 7,558 ft. of gravel road.	F. R. Bilderback, Co. Auditor.
Ohio	Cincinnati	July 12	Improving Springfield pike, Glendale.	Fred Drehs, Clk. Co. Comrs.
Ohio	Elyria	July 12	Grading and macadamizing two roads.	Chas. Chandler, Clk. Co. Comrs.
Indiana	Indianapolis	July 12	Grading and paving 2 roads, graveling, etc., one.	Blaine H. Miller, City Engineer.
Indiana	Richmond	July 12	Grading, graveling, brick gutter, etc., in Alley.	Clifton W. Merrill, Chm. B. P. W.
Missouri	St. Louis	July 12	Grading, paving, etc., number of contracts.	A. J. O'Reilly, Pres. Bd. Local Imp't.
Illinois	Reading	July 12	Graveling Bloomington road.	C. A. Helper, Chm. Township Comrs.
Texas	Houston	July 12	Paving Houston and Crosby roads.	John B. Ashe, County Auditor.
Virginia	Balls Bluff	July 13, 11 A.M.	Constructing government roadway.	M. Gray Zalinski, Q. M. U. S. A., Washington, D. C.
Ohio	Sidney	July 13, noon	Paving bridge over Nine Mile Creek with brick.	J. C. Rosser, County Auditor.
Ohio	Rudolph	July 13	Constructing two miles of stone road.	J. C. Friend, Village Clerk.
Ohio	Cincinnati	July 13	Several miles of pike improvements.	Fred Drehs, Clk. Bd. Pub. Service.
Ohio	Jackson	July 13	Repairing highways with crushed stone.	S. C. Foust, Township Clerk.
Wisconsin	Neebaw	July 13	Furn. and laying vit. block, N. Commercial St.	Robt. Jameson, Chm. Bd. Pub. Wks.
Wisconsin	Racine	July 13	Brick paving and concrete curb.	P. H. Connelly, Clerk of Board.
Ohio	Cleveland	July 13	Grading and draining Taylor road.	A. B. Lea, County Engineer.
Wisconsin	Green Bay	July 15, 10 A.M.	Paving with asphalt, grading, etc.	John Gross, Chm. St. Com.
Minnesota	St. Paul	July 15, 10 A.M.	Macadamizing Edgerton St.; grading, etc., ave.	Edward G. Krahmer, Co. Auditor.
Ohio	Cincinnati	July 15, noon	Pave, grade, etc., Beechmont Ave.; cost, \$99,796.	Chas. N. Danenhowe, City Eng'r.
Missouri	Sedalia	July 15, 5 P.M.	Curbing portion of Sixteenth Street.	C. E. Baker, City Clerk.
Michigan	Muskegon	July 15	Laying bituminous macadam, Western Ave.; cost, \$50,000.	C. S. Gamble, City Engineer.
Missouri	Kirksville	July 15	Laying 16,700 yds. vit. paving brick or block on 6-in. concrete base; also 8,536 ft. concrete curb and gutter.	H. Selby, Mayor.
Ohio	Archbold	July 15	Paving Depot Street.	O. W. Hill, Village Clerk.
Ohio	Wauseon	July 15	Paving Depot St. with brick on concrete.	H. L. Deyo, Village Clerk.
Ohio	Cleveland Hts.	July 16, noon	Grading, paving, etc., Mayfield road.	Wm. G. Phare, Village Clerk.
Indiana	Newcastle	July 16, 8 P.M.	Gravel roadways cement walks C and D aves.	G. E. Martin, Clk. Bd. Trus.
Washington	Snohomish	July 16	Grade, curb, cement walks; 4th St.; cost, \$30,000.	City Council.
Ohio	Chardon	July 16	Constructing a State highway.	Sam Huston, Columbus, Com'r.
New York	Brooklyn	July 17	Laying 14,900 yds. asphalt; 1,910 yds. asphalt block; 97,560 ft. cement walks and 33,200 lin. ft. new curb.	Bird S. Coler, Boro President.
Indiana	Spencer	July 18, 11 A.M.	Constructing macadam road on County line.	G. O. Mitten, County Auditor.
Pennsylvania	Wilkes-Barre	July 18, 2 P.M.	Vit. block pavement on Broad St., Hazle twp.; also furnishing and delivering material.	James M. Norris, Co. Comptroller.
Kansas	Ft. Leavenworth	July 19, 11 A.M.	Paving, laying curb, gutter, etc., Grant Ave.	Capt. J. E. Normoyle, Q. M.
Ohio	Cincinnati	July 19, noon	Grading and metalizing pike, bldg. culvert, etc.	Stanley Struble, Pres. Co. Comrs.
Indiana	Bluffton	July 19, 8 P.M.	Cement comb. curb and walks, Spring St.	Frank S. Smith, City Clerk.
Ohio	Columbus	July 19	Constructing roads, pavements, etc., Bar'cks.	H. B. Chamberlain, Q. M. U. S. A.
Ohio	Youngstown	July 19	Resurfacing East Federal St.	W. H. McMillin, Clk. Bd. Pub. Serv.
Ohio	Findlay	July 20, noon	Bldg. 3 miles stone pike; also 3-4 mile of pike.	Isaac Hart, County Com'r.
Indiana	Crawfordsville	July 20, 3 P.M.	Bldg. Co. Line gravel road, 8 miles, \$20,000.	Board County Commissioners.
Indiana	Greencastle	July 20	Grading, macadam, etc., County line.	Clement C. Hurst, Co. Auditor.
Wisconsin	Oshkosh	July 20	Asphalt paving, comb. curb and gutter.	W. A. Marden, Clk. Bd. Pub. Wks.
Ohio	Mt. Gilead	July 23	Constructing two turnpikes.	W. C. McFarland, County Auditor.
Ohio	Painesville	July 23	Constructing State highway.	Samuel Huston, Columbus, Comr.
Louisiana	New Orleans	July 24, 1 P.M.	Repair artificial walks, Anunciation Sq.	W. J. Hardee, City Engineer.
New Jersey	Camden	July 25	Paving streets on concrete base.	Edw. Pransico, Chm. Com.
Ohio	London	July 25	Concrete paving, 5,000 sq. yds.; 464 cu. yds. excavation; laying 4-in. tile, catch-basins, etc.	H. L. McGafferty, City Engineer.
Ohio	Cincinnati	July 26	Improving a number of pikes.	Fred Drehs, County Clerk.
Ohio	Cleveland	July 27, 11 A.M.	Repairing Bentleyville and Berea roads.	A. B. Lea, County Engineer.
Ohio	Orrville	July 27, noon	Improving portions of Mill and Orr Sts.	S. W. Jackson, Village Clerk.
Ohio	Steubenville	July 29	Paving Washington St. with Hillside block.	T. W. Vance, Clk. Bd. Pub. Serv.
Maryland	Hagerstown	July 30	Paving S. Potomac St. with sheet asphalt; with guarantees of 5, 10 and 15 years.	Luther Peterman, City Clerk.
Indiana	Green Castle	August 1, 10 A.M.	Bldg. 5 1/2 miles gravel and macadam road.	C. C. Hurst, County Auditor.
Pennsylvania	Sharpsville	August 6, 7 P.M.	Laying 11,700 sq. yds. vit. paving block on 6-in. concrete base, with asphalt filler.	W. A. Graber, Sec'y Boro. Council.
Pennsylvania	Reynoldsville	August 6	Grading, curbing and paving Swamp Alley.	J. C. King, Pres. Town Council.
<b>Water Supply</b>				
Illinois	Chicago	July 11, 10:15 A.M.	Laying water service pipes, 20 cont.; supply pipe, one.	John J. Hanberg, Com'r Pub. Wks.
New York	New York	July 11, 2 P.M.	Furnishing and laying water mains in six streets.	John H. O'Brien, Water Com'r.
Nebraska	Tilden	July 11	Constructing water works, inc. standpipe, concrete pump house, 2 1/2 miles of pipes, etc.	Iowa Eng. Co., Clinton, Ia., Eng'rs.
Missouri	Kansas City	July 12, 2 P.M.	Furn. 300 standard 5-in. double-nozzle fire hydrants with fire steam connection.	Everett Elliott, Sec'y Bd. Pub. Wks.
Wisconsin	Bloomer	July 12, 4 P.M.	Complete water works system, inc. steel tank, gasoline engine, and deep-well pump, small brick bldg. and distribution pipe-line system.	Oscar Claussen, St. Paul, Minn., C.E. Park Commissioner.
Indiana	Indianapolis	July 12	Laying water pipes in Riverside Park.	C. L. James, City Engineer.
Illinois	Mattoon	July 13, 2 P.M.	Furn. 11,300 ft. 12-in. c.i. pipe; also bldg. concrete reservoir 1,000,000 gals., etc.	Ira W. Sylvester, Alexandria, Consulting Engineer.
Louisiana	Eunice	July 15, 6 P.M.	Constructing waterworks system.	



## Water Supply—Continued.

Wisconsin.....	North Milwaukee	July 15, 8 P.M.	Furn. and laying 12,000 ft. c. i. pipe, hydrants, etc.	Emil H. Klamp, Village Clerk.
North Dakota.....	Kenmore	July 15	Constructing 1,125 ft. 14-in. water main	A. G. Engdahl, City Auditor.
New Jersey.....	Elizabeth	July 15	Laying 3 miles of 36-in. water pipe	John Kean, Pres. Eliz. Water Co.
Indian Territory.....	Checotah	July 15	Purchase of boilers, pumps, heaters, boiler-feed pumps, electrically operated triplex pumps, automatic high-speed engine, hydrants, valves and c. i. pipe	O'Neil Engineering Co., Dallas, Tex.
Oklahoma.....	Sayre	July 16, 3 P.M.	Furn. material and building water works, inc. pumping machinery, pipes, valves, etc., steel tower 100 ft. high, 50,000-gal. tank	Burns & McDonnell, Kansas City, Mo.
Minnesota.....	Comfrey	July 16	Bldg. water works plant, complete	Oscar Erickson, Pres. Village Com.
Indian Territory.....	Eufaula	July 16	Purchase of material for complete water works	O'Neil Engineering Co., Dallas, Tex.
New York.....	New York	July 16	Hauling and laying water mains in three streets	John H. O'Brien, Water Com'r.
Texas.....	Commerce	July 18	Purchase of boilers, pumps, c. i. pipe, hydrants, etc.	O'Neil Engineering Co., Dallas.
Minnesota.....	St. Paul	July 20, 11 A.M.	Rebuilding Sandy Lake Reservoir dam	H. Schulz, Capt. Engrs. U. S. A.
Vermont.....	Burlington	July 22, 2 P.M.	Bldg. mechanical filter plant, inc. covered rein. concrete coagulating basin, 250,000 gals. 4 concrete filter tanks, each surface 200 sq. ft.; 100,000 clear water basin under filters, low-lift pumps, piping, etc.	Hering & Fuller, N. Y. City, Eng'r.
Nebraska.....	Omaha	July 22	Furn. and laying 5,000 ft. 4-in. 15-20 ft. 6-in. c. i. mains	Andrew Rosewater, City Eng'r.
Nebraska.....	Randolph	July 22	Laying 5,000 ft. 4-in., 1,500 ft. 6-in. c. i. main, etc.	E. S. Millard, City Clerk.
Wisconsin.....	West Bend	July 24	Erecting water system, complete	The Mayor.
Saskatchewan.....	North Battleford	July 31, 6 P.M.	Installing, etc., water works, etc.	Willis Chipman, Toronto, Engr.
Ohio.....	Sandusky	August 5	Sale of duplex compound condensing Worthington pumping engine; cap. 3,000,000 gal. 200 ft.; installed 1876, taken out, 1902	Wm. Ohlemacher, Pres. Bd. Pub. Ser.
New York.....	New York	August 6, 2 P.M.	Bldg. main dams for Ashokan reservoir, nr. Brown's Station in towns of Olive and Marbletown, Ulster Co.	J. Waldo Smith, Ch. Eng. Bd. W. S.
Mississippi.....	Speed's Addition	August 6	Erecting and sale of complete water works system or maintenance of water works and supply for public and private use	T. T. Barber, Speed, P. O., Town Clk.
California.....	Sacramento	August 10, 8 P.M.	Competitive plans and specifications for constructing filtration plant	M. J. Desmond, Clk. Bd. Trus.
Louisiana.....	New Orleans	September 4, 3 P.M.	Hauling and laying 250 miles 4 to 30-in. c. i. water pipe, aggregating 26,000 tons	Geo. G. Earl, Gen. Supt. S. & W. Bd.

## Sewerage

Illinois.....	Chicago	July 11, 10:15 A.M.	System brick and vit. tile pipe sewers, etc., sev. sts.	John J. Hanberg, Com'r Pub. Wks.
Iowa.....	Cedar Falls	July 11	Bldg. sewers, 4 sts., 2,057 ft. 8-in., 130-ft. 6-in., etc.	W. H. Merner, Mayor.
Kansas.....	Eldorado	July 12	Extending sanitary sewer system, inc. 8,500 ft. 8-in. pipe, 17 manholes, 6 flush tanks	B. F. Allenbach, City Clerk.
Illinois.....	Mattoon	July 13, 2 P.M.	Furn. 13,580 ft. 18-in. vit. sewer pipe, etc.	C. L. James, City Engineer.
Ohio.....	Norwood	July 13	Bldg. sanitary sewer, inc. 10,000 ft. 8-21-in. pipe, 25 tons iron pipe, manholes, etc.	L. H. Gerhart, City Clerk.
Ohio.....	Cincinnati	July 13	Large number of sewer contracts	Fred. Dreihls, Clk. Bd. Pub. Serv.
Ohio.....	Steubenville	July 15, noon	Laying 12-in. pipe sewer in Alley D and other streets	T. W. Vance, Clk. Bd. Pub. Serv.
South Dakota.....	Brookings	July 15, 8 P.M.	Constructing sewer system; 60,698 ft. 24-8-in. pipe, septic tank and 3 filter beds	F. M. Cappellen, Minneapolis, Minn.
New Jersey.....	Elizabeth	July 15, 8:30 P.M.	Laying 10-in. pipe sewer, etc.	N. K. Thompson, St. Com'r.
Colorado.....	Lamar	July 15	Constructing sanitary sewer system, inc. 66,805 ft. 8 to 21-in. vit. sewer pipe, etc., estimate, \$77,000	C. W. Heaton, Town Clerk.
Michigan.....	Lansing	July 15	Laying 6,320 ft. 8-24-in. sewers; cost, \$18,000	H. A. Collar, City Engineer.
New York.....	New York	July 16, 11 A.M.	Constructing sewers, etc., various streets in Bronx	Louis F. Haffen, Boro President.
Ohio.....	Cleveland Heights	July 16, noon	Constructing sewer s-n Taylor's road	Wm. H. Evers Eng. Co., Cleveland.
Connecticut.....	Torrington	July 16, 2 P.M.	Constructing 20,580 ft. 20-8-in. tile pipe sewer, 76 manholes, etc.	Walter A. Williston, Boro Engr.
Connecticut.....	Torrington	July 16, 2 P.M.	Bldg. sanitary sewers, inc. 10,876 ft. 8-in., 2,157 ft. 10-in., 3,681 ft. 12-in., 1,066 ft. 15-in., 2,800 ft. 20-in. tile pipe sewers, 76 manholes, etc.	Walter A. Williston, Boro Eng'r.
Ohio.....	Columbus	July 16	Bldg. Burkett Co. ditch, Brown twp.	Walter Braun, Co. Surveyor.
Ohio.....	Medina	July 16	Bldg. sewers and disposal works, Dist. Nos. 1 and 2, inc. 1,325 ft. 15-in., 115 ft. 12-in., 31,300 ft. 8-in. pipe, etc.	E. G. Bradbury, Columbus, Engr.
Michigan.....	Iron River	July 17	Bldg. sewers, Main Sewer Dist. No. 1	Bradbury & Shute, Columbus, Ohio, Engineers.
Ohio.....	Youngstown	July 19	Laying sewers in E. Federal St. and Summit Ave.	W. H. McMillin, Clk. Bd. Pub. Serv.
Ohio.....	Bucyrus	July 19	Bldg. sewer disposal plant, inc. filter beds, and concrete work, Co. Infirmary	Chas. Meyer, Clk. Bd. Directors.
Florida.....	Pensacola	July 20, 11 A.M.	Bldg. sewer system at navy yard	Commanding Officer.
Wisconsin.....	Oshkosh	July 20, noon	Constructing sewer, Graham and Sherman Streets	W. A. Marden, Pres. Bd. Pub. Wks.
California.....	San Jose	July 22, 11 A.M.	Bldg. septic tank sewer system at Co. Poorhouse	Henry A. Pfister, Clk. Co. Superv.
Pennsylvania.....	Philadelphia	July 22, noon	Bldg. sewers appurtenant to abolishing grade crossings of P. G. & N. and P. & R. Rys., Contracts Nos. 101 to 107	George R. Stearns, Dir. Pub. Works.
Ohio.....	Willoughby	July 22	Building a sanitary sewer	C. C. Jenkins, Village Clerk.
Washington.....	Aberdeen	July 24, 5 P.M.	Bldg. sewers, Dist. C and D, inc. 5 miles, 6 to 24-in. vit. clay pipe, concrete manholes, and flush tanks, etc.	H. W. Troutman, City Engineer.
Indiana.....	Frankfort	July 25, 2 P.M.	Constructing a sanitary sewer	Worth Price, City Clerk.
Wisconsin.....	Janesville	July 25	Constructing sewers in District No. 6	F. B. Heddles, Clerk of Council.
Saskatchewan.....	North Battleford	July 31, 6 P.M.	Installing, etc., sewer system, etc.	Willis Chipman, Toronto, Eng.
Kansas.....	Eureka	July 31	Furn. and laying 1,143 ft. 8-in. sewers	C. C. Huntington, City Engineer.
Wisconsin.....	Marshfield	August 1	Constructing sewer in Sixth Street	M. G. Fleckenstein, City Clerk.
Ohio.....	Piqua	August 1	Quantity of 24- and 34-in. sewer pipe	W. B. Mitchell, Clk. Bd. Pub. Serv.
Louisiana.....	Alexandria	August 6, 7:30 P.M.	Constructing about 5 miles 10-, 12-, 14-in. tile pipe, sewers and accessories	Ira W. Sylvester, City Engr.
Iowa.....	Emmetsburg	August 7, 1 P.M.	Drainage improvements, 7 Dist., inc. constructing open ditches and excav. and laying and covering 11,670 ft. 6-in. tile; 800 ft. 7-in., 14,540 ft. 8-in., 1,000 ft. 9-in., 24,230 ft. 10-in., 25,660 ft. 12-in., 9,600 ft. 14-in., 16,715 ft. 15-in., 6,700 ft. 16-in., 500 ft. 17-in., 17,400 ft. 18-in., 23,150 ft. 20-in., 3,000 ft. 22-in., 24,300 ft. 24-in., 3,950 ft. 26-in., 6,200 ft. 28-in.; also furnishing material therefor	Sim. R. Stedman, County Auditor.
Louisiana.....	New Orleans	September 11, 3 P.M.	Constructing approximately 110 miles of sewers, etc., size 8 to 27 in., 5 to 17 ft. deep, inc. 1,230 manholes and 443 flush tanks	W. J. Hardee, City Engineer.

## Public Buildings

New Jersey.....	Vineland	July 11, noon	Heating plant for Soldiers, etc., Home	Ernest C. Stahl, State House, Trent'n.
Tennessee.....	Knoxville	July 12, 9 A.M.	Erecting East Knoxville fire hall	W. O. White, Chm. Bd. Pub. Works.
Indiana.....	Greensburg	July 12, 10 A.M.	Erecting school, to be finished September 6	Ira A. Check, Trustee.
Michigan.....	Bay City	July 12, noon	Erecting 8-room \$25,000 school, 4 contracts	Clark & Munger, Architects.
Indiana.....	Syracuse	July 12, 8 P.M.	Heating and ventilating new school bldgs.	H. W. Buchholz, Secy. School Trus.
South Dakota.....	Pennington	July 12	Furn. and install. heating plant, Co. Court-house	Robt. Rudesill, County Auditor.
Ohio.....	Sandusky	July 12	Building 8-room addition to school	Wm. E. Carter, Clk. Bd. Education.
North Dakota.....	Bathgate	July 12	Electric wiring, gas piping, plumbing, power-house, etc., at new Blind Asylum	W. J. Burke.
Ohio.....	Georgetown	July 13	Erecting public hall and office building	Geo. Hornung, Cincinnati, Con. Engr.
Ohio.....	Wheelerburg	July 13	Enlarging school, four or eight rooms	J. B. Fullerton, Clerk Bd. Educ'n.
Indiana.....	Petersburg	July 15, 10 A.M.	Erecting school, Marion twp., complete Sept. 15	Garfield Chambers, Trustee.
New York.....	New York	July 15, 11 A.M.	Bldg. 2 new schools; repairs to heating, etc., one	C. B. J. Snyder, Supt. Bldgs.
Texas.....	Paris	July 15, noon	Erecting 4-story brick hospital	Ed. H. McCuiston, Mayor.
Pennsylvania.....	Wilkes-Barre	July 15, 2 P.M.	Constructing interior work, Co. Court-house	McCormick & French, Architects.
British Col'bia.....	Nelson	July 15	Erecting \$45,000 school	E. C. Arthur, Sec'y School Bd.
Alabama.....	Tusculum	July 15	Erecting \$160,000 County jail	E. J. Ostling, Montgomery, Arch.
California.....	Banning	July 15	Bldg. one-story, brick, \$15,000 high school	F. S. Allen, Pasadena, Arch.
Ohio.....	Cleveland	July 15	Bldg. new \$300,000 technical high school	Board of Education.
Tennessee.....	Morristown	July 15	Erecting a \$12,000 City Hall	O. R. Carrer, Chm. Bldg. Com.
Washington.....	Everett	July 15	Erecting a \$50,000 school	Jas. Stephen, Seattle, Arch.
Dist. of Col'bia.....	Washington	July 16, 11 A.M.	Bldg. additions to Naval Hospital	Wood, Donn & Deming, Architects.
New Jersey.....	Newark	July 16, 8:30 P.M.	Erecting high school; also heating, etc.	Runyon & Carey, Engineers.

## Public Buildings—Continued.

Missouri.....	St. Joseph.....	July 17, 3 P.M.	Repairs, etc., to U. S. Post Office.....	James Knox Taylor, Wash., D. C.
Indiana.....	De Soto.....	July 16.....	Erecting 2-story brick County School.....	Mahurin & Mahurin, Ft. Wayne, Ar. architects.
Ohio.....	Wapakoneta.....	July 18, noon.....	Erecting 2-story and basement brick and stone high school.....	A. O. Pepple, Clk. Bd. Education.
Indiana.....	Williamsport.....	July 18, noon.....	Reconstructing County Court House.....	Robert L. Winks, County Auditor.
Dist. of Col'bia.....	Washington.....	July 18, 2 P.M.	Furn. and installing large metal and plate glass windows for new national museum.....	Bernard R. Green, Supt. Con.
Pennsylvania.....	Wilkes-Barre.....	July 18, 2 P.M.	Heating and ventilating system new Court-house.....	James M. Norris, Co. Controller.
Tennessee.....	Chattanooga.....	July 18, 3 P.M.	Bldg. extension U. S. Post Office, etc.....	James Knox Taylor, Wash., D. C.
Indiana.....	Forest.....	July 18.....	Erecting \$30,000 high school.....	J. T. Johnson & Co., Ind., Architects.
Ohio.....	Columbus.....	July 18.....	Erecting 2-story and basement stone high school.....	J. O. Pepple, Clk. Bd. Education.
Florida.....	Gainesville.....	July 19, 3 P.M.	Erecting U. S. Post Office, complete.....	James Knox Taylor, Wash., D. C.
Ohio.....	Athens.....	July 19.....	Erecting Infirmary bldg.; also addition to main bldg., etc., Athens State Hospital.....	Dr. J. T. Hansen, Sec'y Bd. Trus.
Illinois.....	Chicago.....	July 20, 11 A.M.	Cut stone work, Union St. bath house.....	John J. Hanberg, Com'r Pub. Works.
California.....	Claremont.....	July 20.....	Bldg. one-story brick, 90 x 135 ft., \$25,000 school.....	F. S. Allen, Pasadena, Arch.
Ohio.....	Struthers.....	July 20.....	Erecting brick and stone, frame and cement block city building.....	R. F. Thompson, Youngstown, Arch.
New Jersey.....	East Orange.....	July 22, 4 P.M.	Erecting complete Lincoln school.....	Warren A. Clapp, Secy. Bd. Educ'n.
Wyoming.....	Casper.....	July 22.....	Bldg. 2-story brick and stone Court House, 66 x 88 ft., inc. electric wiring, heating, etc.....	C. A. Randall, Architect.
South Carolina.....	Bishopville.....	July 23, noon.....	Erecting Lee County Court-house.....	Edwards & Walter, Columbia, Archs.
Illinois.....	Aurora.....	July 24, 3 P.M.	Building extension to U. S. Post Office.....	James Knox Taylor, Wash., D. C.
North Dakota.....	Antler.....	July 24.....	Bldg. 2-story brick or concrete block school.....	B. F. Felton, Clk. School Board.
Ohio.....	Mt. Healthy.....	July 24.....	Bldg. school Steeles Sub.; Springfield township.....	Wm. Fischvogt, R. F. D. No. 4.
Arkansas.....	Dayton.....	July 24.....	Erecting Co. Mem. Bldg., 3 separate bids: cost, \$250,000.....	Chas. Winchet, Chm. Bd. Trustees.
Indiana.....	Paragould.....	July 25.....	Erecting 2 story and basement high school.....	J. A. Morgan, Chm. Spec. Sch. Dist.
Louisiana.....	Marion.....	July 25.....	Bldg. addition to hospital and bath house Nat'l Military Home.....	J. W. Sanderson, Treas. N. M. H.
Massachusetts.....	New Roads.....	July 25.....	Enlarging, etc., Parish jail.....	C. J. Hull, Alexandria, Arch.
Massachusetts.....	Boston.....	July 27.....	Rein. concrete floor, Bldg. 127, Navy Yard, \$5,700.....	Commanding Officer
Missouri.....	Potosi.....	July 27.....	Erecting \$30,000 brick Court House.....	H. H. Hoenschild, Rolla, Arch.
California.....	Redwood City.....	July 29.....	Erecting \$150,000 Court House for County.....	Glen Allen, San Francisco, Arch.
Michigan.....	Owosso.....	July 31, 3 P.M.	Constructing U. S. Post Office.....	James Knox Taylor, Wash., D. C.
Minnesota.....	Crookston.....	August 5, 3 P.M.	Constructing U. S. Post Office.....	James Knox Taylor, Wash., D. C.
Indiana.....	Monticello.....	August 9.....	Erecting a County Poor Asylum; cost, \$31,750.....	County Commissioners.
Iowa.....	Mason City.....	August 12, 3 P.M.	Building, complete, U. S. Post Office.....	James Knox Taylor, Wash., D. C.

## Bridges

California.....	Redding.....	July 11, 11 A.M.	Building stringer bridge over Pit River.....	S. N. Witherew, Clk. Supervisors.
Dist. of Col'bia.....	Washington.....	July 11.....	Reconstructing Pier No. 1, Aqueduct bridge.....	Mai. Spencer Cosby, Eng'r Corps.
Ohio.....	Wapakoneta.....	July 12, 11 A.M.	Erecting two bridges over Anglaize River.....	W. H. Meyer, County Auditor.
Tennessee.....	Nashville.....	July 12, noon.....	Bldg. 2 bridges, 6,000 yds. each, concrete piers, viaduct approaches, etc.....	Howard M. Jones, Engineer.
Ohio.....	Cincinnati.....	July 12, noon.....	Erecting 2 culverts and rein. concrete bridge.....	Fred Dreihls, County Clerk.
Ohio.....	Cleveland.....	July 13, 11 A.M.	Constructing bridge per Report 1570.....	A. B. Lea, County Surveyor.
Ohio.....	Sidney.....	July 13, noon.....	Bldg. 80-ft. span, single-track bridge over Nine Mile Creek, paving, etc.....	J. C. Rosser, County Auditor.
Indiana.....	Bluffton.....	July 13.....	Building 10 bridges; spans from 14 to 40 feet.....	C. S. Brineman, County Auditor.
California.....	Ukiah.....	July 15, noon.....	Building bridge over Navarro river.....	Hall McCowen, Clk. Supervisors.
Georgia.....	Athens.....	July 15, noon.....	Repairing sub-structure and bldg. new steel 147-ft. span at Princeton bridge over Oconee.....	Jas. Barrow, Clk. Rd. Comrs.
Illinois.....	Mt. Pulaski.....	July 15, 1 P.M.	Erecting 5 steel bridges, three 80-ft., two 60 ft., long, all 12-ft. wide.....	W. E. Birks, Chm. Lake Fork Special Drainage District.
Massachusetts.....	Barnstable.....	July 15, noon.....	Bldg. steel bridge on masonry piers, etc.....	S. E. Tinkham, Boston, Eng'r.
Louisiana.....	New Orleans.....	July 15, 1 P.M.	Erecting Bascule or lift bridge.....	Charles R. Kennedy, Comptroller.
Ohio.....	Jefferson.....	July 15, 1 P.M.	Building superstructure of steel bridge.....	County Commissioners.
New Jersey.....	Allendale.....	July 15.....	Bldg. plate girder bridge, Saddle River Boro.....	A. H. Ackerman, Chm. Freeholders.
Nebraska.....	Beatrice.....	July 15.....	Bldg. 30-ft. rein. concrete bridge; also concrete abutment under approach to another.....	County Commissioners.
Alberta.....	Lethbridge.....	July 15.....	Bldg. superstructure of bridge.....	J. E. Schwitzer, Winnipeg, Eng'r.
California.....	San Jose.....	July 15.....	Erecting 2 concrete bridges, extension abutment.....	Henry A. Pfister, Clk. Superv.
Montana.....	Dillon.....	July 15.....	Erecting 2 spans, 80 ft. each near Willis Post Office.....	Beaverhead County Commissioners.
Ontario.....	Toronto.....	July 16, noon.....	Supplying and erecting steel ry. bridges and hand-railing, Lansdowne Ave. subway.....	C. H. Rust, City Engineer.
Ohio.....	Sandusky.....	July 16.....	Bldg. bridge over Mills Creek, Monroe St.....	Chas. Kubach, Co. Auditor.
New Jersey.....	Hackensack.....	July 16.....	Erecting 3 concrete bridges with stone facing.....	W. H. Taylor, Clerk, Freeholders.
Kansas.....	Lincoln.....	July 16.....	Constructing a stone arch bridge.....	County Clerk.
Ohio.....	Sandusky.....	July 17, 1:30 P.M.	Bldg. sub. and superstructure over Mills Creek.....	Chas. Kubach, Co. Auditor.
Pennsylvania.....	Wilkes-Barre.....	July 18, 2 P.M.	Rebldg. bridge over Mill Creek, Miners Mills Boro.....	James M. Norris, Co. Controller.
Nebraska.....	Fort Snelling.....	July 19, 11 A.M.	Erecting bridge across Mississippi.....	Jas. B. Quinn, Col. Eng'rs, U. S. A.
Ohio.....	Cincinnati.....	July 19, noon.....	Building culvert, removing iron superstructure, etc., Columbia township.....	Stanley Struble, Pres. Co. Com'rs.
Illinois.....	Ottawa.....	July 19, 1 P.M.	Bldg. 2 concrete abutments, 20 x 14 ft. 4-wing walls, 16 to 6 ft. long; 60-ft. steel span, 16 ft. roadway.....	W. A. Dunaway, County Surveyor.
Porto Rico.....	San Juan.....	July 20, 10 A.M.	Plans for 5 steel riveted steel truss highway bridge spans, each 135 ft. 1-in. long between center of pins, 3 bridges.....	J. J. Jiminez, Supt. Pub. Works.
Virginia.....	Culpeper.....	July 20.....	Erecting two steel bridges.....	W. E. Coons, Clk. Co. Com'rs.
Indiana.....	Columbia City.....	July 23.....	Furn. and erecting steel and concrete bridges, concrete abutments and arches in town of Collamer.....	Whitley Co., Commissioners.
Ohio.....	Cleveland.....	July 27, 11 A.M.	Bldg. concrete steel culvert, Chagrin Falls twp.....	A. B. Lea, County Surveyor.
Ohio.....	Chardon.....	July 29, 11 A.M.	Bldg. and repairing bridges at stations 4 + 0, 34 + 0, 40 + 65, 46 + 72; also abutments iron bridge.....	Geauga and Cuyahoga Co. Com'rs.
Mississippi.....	Hattiesburg.....	July 31, 1 P.M.	Erecting 4 bridges, plate girder type, 30 ft. wide, center to center, from 65 to 75 ft. long.....	J. H. Putnam, City Engineer.
Ohio.....	Jackson.....	August 5, 1 P.M.	Constructing six concrete bridges.....	J. W. Turner, County Surveyor.

## Miscellaneous

New York.....	New York.....	July 12, noon.....	Furn. parts for sprinkling trucks and sweeping machines.....	M. Craven, Com'r St. Cleaning.
Pennsylvania.....	Wilkesburg.....	July 12, 3 P.M.	Furn. 500 ft. 2 1/2-in. double-jacket, rubber-lined cotton fire hose; also deluge set.....	E. Z. Pepper, Chm. Fire Com.
Ohio.....	Georgetown.....	July 13, noon.....	Boiler, chimney, pole line, arc lamps, switch board, transformers, etc., for light plant now building.....	Geo. Hornung, Cincinnati, Eng'r.
California.....	Ukiah.....	July 13.....	Purchase of franchise of Snow Mountain Water & Power Co., to erect, etc., transmission line in Potter Valley.....	W. V. Kilbourne, Clk. Bd. Trus.
Louisiana.....	New Orleans.....	July 15, noon.....	Foundation work, etc., on Algiers viaduct, inc. concrete footings and rein. concrete retaining walls; also earth approaches complete, with shell paving on top.....	Alfred Hiller Co., Ltd.
Kansas.....	Salina.....	July 15, 8 P.M.	Furnishing 500 feet of fire hose.....	A. W. Godfrey, City Clerk.
Pennsylvania.....	Bradford.....	July 15.....	Electric lighting, 141 all-night street lights, contract to start June 13, 1908.....	Edward C. Charlton, City Clerk.
Ohio.....	Grove City.....	July 15.....	Furn. 50 lights, 80 c.p., 30 of 500 c.p., 20 of 1,200 c.p.....	W. C. Merritt, City Clerk.
Ohio.....	Urbana.....	July 15.....	Mud river imp. 615,000 yds. of material.....	C. S. Pratt, Engineer.
California.....	Fresno.....	July 15.....	Franchise to erect and maintain transmission lines and electric conduits for 25 years.....	Board of Trustees.
Ohio.....	Grove City.....	July 15.....	Lighting sts. and alleys for one yr.; 50 lights 80 c.p., 30 of 500 c.p., 30 of 1,200 c.p.....	Will C. Merritt, City Clerk.
New York.....	West Point.....	July 16, noon.....	Steam piping for power house and dis. system.....	Quartermaster.
Rhode Island.....	Newport.....	July 16.....	Building garbage incinerating plant at Naval Training Station.....	Bureau Supplies & Accounts, Navy Department, Washington, D. C.
Indiana.....	Fort Wayne.....	July 17, 11 A.M.	Erecting 12-ton garbage crematory.....	Capt. B. B. Hyer, Q. M., U. S. A.
Virginia.....	Fort Myer.....	July 17.....	Erecting 12-ton garbage crematory.....	Capt. B. B. Hyer, Q. M., U. S. A.



## Miscellaneous—Continued.

New York.....	Durhamville.....	July 18, noon.....	Building arch culvert on aqueduct over Oneida Crk., where Erie Canal crosses.....	F. C. Stevens, Albany, Supt. P. W.
Ohio.....	Cincinnati.....	July 18, 2 P.M.....	Constructing dam of concrete, etc.....	Wm. T. Russell, Col. Engrs., U. S. A.
New York.....	New York.....	July 18, 2 P.M.....	Furnishing spruce plank for Brooklyn Bridge.....	Jas. W. Stevenson, Com'r Bridges.
Michigan.....	Grand Rapids.....	July 18, 8 P.M.....	Bldg. 4,000 cu. yds. concrete, walls, exc. 18,000 cu. yds. rock, 8,000 cu. yds. earth, in connection with flood protection work.....	L. W. Anderson, City Engineer.
Washington.....	Bremerton.....	July 20.....	Furn. two 20-ton 4-motor electric cranes, navy yard, Puget Sound; cost, \$11,000.....	R. C. Hollyday, Chief Bureau Yds. and Locks, Navy Dept., Washington, D. C.
Wyoming.....	Fort D. A. Russell	July 22.....	Furnishing and erecting garbage crematory.....	Capt. V. K. Hart, Constr. Q. M.
New Jersey.....	Hoboken.....	July 23, 8 P.M.....	Furn. first-size steam fire engine and two 60-gal. single tank comb. chemical engines and hose wagons.....	D. A. Haggerty, Clk., Fire Com'rs.
Arkansas.....	Fort Smith.....	July 29, 9 A.M.....	Furn. aerial comb. hook-and-ladder truck.....	D. B. Rowbridge, Chief Fire Dept.
Saskatchewan.....	North Battleford	July 31, 6 P.M.....	Installing, etc., electric light system, etc.....	Willis Chipman, Toronto, Eng'r.
Mississippi.....	Hattiesburg.....	July 31, 8 P.M.....	Bldg. superstructure 4 steel bridges.....	J. H. Putnam, City Engineer.
Pennsylvania.....	Harrisburg.....	August 5, noon.....	Collection and disposal of garbage, etc.; also ashes, etc., for 10 yrs., from Feb. 1, 1908.....	Seymour S. Eberts, Chm. San. Com.
Manitoba.....	Winnipeg.....	September 3, noon.....	Supplying and erecting portions of equipment for hydro-electric works, transmission lines, and receiving transformer station.....	M. Peterson, Sec'y, Bd. Control.
India.....	Calcutta.....	December 31.....	Lighting town by electricity, gas, oil, or other method; now lighted by 9,300 gas lamps of 11,300 24 c.p. and 2,400 c.p. oil lamps.....	Municipal Council.

## STREET IMPROVEMENTS

**Montgomery, Ala.**—High street will be paved with asphalt, brick, bitulithic or gravel from Perry to Hull street.—John J. Farley, City Clerk.

**Hartford, Conn.**—The Legislature is considering appropriation of \$4,500,000 for the improvement of public roads, \$750,000 to be expended during each of the next six years.

**Elgin, Ill.**—Villa street will be widened and paved.—Carl E. Plum, City Engineer.

**Peoria, Ill.**—Council is arranging to pave certain portions of Kinsey street with block.—Address City Clerk.

**Crawfordsville, Ind.**—The City Engineer has prepared plans for paving Union street with brick.

**Kokomo, Ind.**—Plans and specifications have been ordered by Council for paving Union street with brick, cement curbs and cement sidewalks.

**Louisville, Ky.**—Ordinances have passed and been approved for grading, curbing and paving with vitrified brick or block seven streets; grading, curbing and paving with vitrified block gutters and asphalt pavement four streets.

**Baltimore, Md.**—An ordinance has been passed providing for an election in November to decide the question of issuing \$5,000,000 paving bonds.—Address City Comptroller.

**Bay City, Mich.**—Council has directed that a large number of 5-foot cement sidewalks be constructed.—Gustavus Hine, Mayor; C. J. Barnett, Secretary, Board of Public Works.

**Detroit, Mich.**—Bids for creosote paving have been rejected, and Street Commissioner J. J. Haarer has been authorized to advertise for new bids; about 8,000 yards are involved.

**St. Joseph, Mo.**—Council has authorized the grading of six streets, including sidewalks, and grading and laying Hassam pavement on one street.—John B. Ryan, President, Board of Public Works.

**Bayonne, N. J.**—Ordinances have been approved for paving Twenty-ninth and Forty-first streets with asphalt on concrete, new concrete curb and gutter, etc.—Purro P. Garvan, Mayor; W. C. Hamilton, City Clerk.

**Perth Amboy, N. J.**—Sketches are being made for the grading and macadamizing of State street, between Pulaski avenue and Maure, the road between Colonia and Avene, near Rahway, and the road between the Albany street bridge and the Landing bridge at New Brunswick.—City Engineer Larsen.

**Schenectady, N. Y.**—Council has passed an ordinance for the paving of Broadway, from the New York Central railroad to the city line.

**Syracuse, N. Y.**—Council will have 5-foot storm, cement, asphalt or brick sidewalks laid on a score or more of streets.—George J. Metz, City Clerk.

**Randleman, N. C.**—Bonds, \$22,500, have been voted for street improvements.—T. O. Bowden, Mayor.

**Ashtabula, O.**—Bids will be received, July 29, for \$24,000 Walnut street paving bonds, \$6,440 Taylor avenue paving bonds, \$9,660 Lake avenue paving bonds and \$8,220 Elm street paving bonds; interest, 5 per cent., payable semi-annually.—Frank W. Wagner, City Clerk.

**Barberton, O.**—Legislation for bond issues amounting to \$13,000 have been passed by Council; one provides for the paving of High street.

**Bertha, O.**—The Village Council has decided to pave with brick Badgley road, Seminary, Beach and Front streets; bids to be invited as soon as the plans are completed.

**Celina, O.**—Council has decided to pave Main and Market streets; they will be macadamized and will have cement curb and gutter; the work will begin August 1.

**Conneaut, O.**—The Commissioners of this county have decided to readvertise for bids on the big stretch of macadam road south of the city.

**Delaware, O.**—The Board of Public Service has rejected the bid of Wain Hazelton for improving Channing street; it will be readvertised.

**East Liverpool, O.**—City Engineer Kelly has made a recommendation for paving Wells-ville road, the city's portion of which would cost about \$2,400; the improvement will be made; Contractor Freshwater has the contract for paving Ida street.

**Findlay, O.**—The cost of paving Tiffin avenue will be \$24,000; bids will be received until July 19 for the purchase of \$55,000 Borthmoth road, \$3,000 Cookson road and \$6,500 Battles road bonds, interest 5 per cent.—John A. Sutton, County Auditor.

**Fremont, O.**—East Depot street is to be paved, as is White avenue, the latter at a cost of \$10,000; \$9,700 is to be expended in paving Park avenue. The City Engineer is preparing plans for paving East Depot street and for the construction of a large number of sewers.

**Lorain, O.**—The contract for the mile of macadamized road between Carlisle and Camden townships has been awarded to the Medina Concrete Company, at \$8,458; the question of paving Washington street will be brought before Council at the forthcoming meeting.

**Lorain, O.**—\$7,500 worth of bonds for the purpose of repairing Broadway and Penfield avenue with brick have been authorized.

**Martin's Ferry, O.**—Bids will be opened, July 29, for \$10,000 bonds for street improvements.—W. N. Baggs, Village Clerk.

**Piqua, O.**—Council will be asked to issue bonds in the sum of \$10,000 to cover the cost of resurfacing the paved streets of the city; City Engineer Whitlock will prepare the plans.

**Richwood, O.**—Council will pave Franklin street; plans will be immediately drafted for the improvement.

**Warren, O.**—Council will proceed with the paving of North Todd avenue and curbing and draining the same; vitrified brick will be used; Elm street will be paved with asphalt block.

**Youngstown, O.**—Council of the village of Poland has authorized the clerk to advertise for bids for grading Lowell road; a \$15,000 bond issue for street repairs will be authorized.

**Zanesville, O.**—Council will improve Still-will and Branch streets by paving with vitrified paving brick and curbing with concrete curb.—Neal Starkey, City Clerk.

**Zanesville, O.**—Ordinances have passed Council providing for the paving of a large number of streets, including Wain avenue, Ridge avenue and State street; \$75,000 will be expended in improving city streets this summer; J. H. McLane, of Bellaire, has signed a contract for paving River road; this job is under the auspices of the State Highway Commissioner.—Neal Starkey, Clerk of Council.

**Claysville, Pa.**—Council has appropriated \$40,000 for street paving; this will include the paving of Wain, Main and Green streets; no plans have been prepared.

**York, Pa.**—The city is to expend \$250,000 for paving and curbing.

**Ogden, Utah.**—The citizens have voted \$29,000 in bonds for the improvement of Weber County Highway bonds.

**North Yakima, Wash.**—Bonds, \$25,000, have been voted for sidewalk purposes.

**Madison, Wis.**—William Keyes has been awarded contract to macadamize and otherwise improve Riverside Drive, for \$4,397; Robert Mitchell bid \$4,998, and John Delaney, \$4,665.—O. S. Morsman, City Clerk.

## SEWERAGE

**Columbus, Ind.**—Council has ordered plans and specifications for a sewer system on the South Side, bids to be invited soon.—L. F. Orr, City Clerk.

**Indianapolis, Ind.**—Plans for the largest single sewer ever built in the city are ready for the approval of the Board of Public Works; the work will be done under the direction of Chas. A. Brown, Deputy City Engineer; the sewer will be 5½ miles long, and will drain a territory of 83 acres; it will cost \$200,000, and will require a year to construct.

**Harlan, Ia.**—Ordinances are before Council requiring the construction of sewers in several additional streets.—Address City Clerk.

**Elizabethtown, Ky.**—The Village Council has decided to submit the matter of issuing bonds for sewer purposes to a vote of the citizens in November.

**Lewiston, Me.**—Two sewers will be built by order of the Board of Public Works.

**Midland, Mich.**—Plans are being made to utilize an artesian well which has just been struck for a water works system for the village of Edenville.

**Sedalia, Mo.**—Council has passed ordinances providing for the construction of sewers in Sub Districts A, B and C of Sewer District No. 22.

**Holdrege, Neb.**—M. A. Earl & Co., of Muskegee, I. T., and Chicago, Ill., are making surveys for a sewerage system.

**Lakewood, N. Y.**—The Lakewood Water, Light and Power Company will build a sewerage disposal system, consisting of septic tanks and filter beds.

**Fulton, N. Y.**—The Chamber of Commerce has appointed a committee to confer with Council with reference to the demand of the State Board of Health that this town should build a sewerage disposal plant.—J. A. Foster is a prominent member of the Board of Industry.

**Barberton, O.**—The construction of a 30-inch sewer across the right of way of the Erie Railroad and another sewer across the right of way of the C. A. and C. road have passed Council; the paving of High street and one or two other improvements, according to the plans of Engineer Alcorn, have been favorably acted on by Council.

**Bellefontaine, O.**—The semi-annual appropriation ordinance makes no provision for sewerage plans and specifications; a special appropriation for this purpose will doubtless be arranged for.

**Cincinnati, O.**—Citizens of the village of Hartwell have voted in favor of an \$80,000 bond issue to be used for the installation of a sewer system; the citizens of Elmwood place also have under consideration the construction of a sewer system in that village.

**Columbus, O.**—The Service Board has rejected all contracts for the main sewage disposal plant and will readvertise; estimated cost, \$40,000.

**Marietta, O.**—The paving of Maple street extension has been awarded to Putnam & Price at \$9,371; Council is considering the employment of a competent engineer to consider the question of the advisability of building a dike around the city; it is proposed to appropriate \$1,000 for such a purpose.

**Fostoria, O.**—A large amount of preliminary paving and curbing legislation has passed Council; a site has also been selected for a park north of the sewage disposal plant; the Board of Public Service has also been instructed to build a sewer from Vine street; W. O. Bulzer has been employed to do the engineering work for the Railroad street improvement.

**Lancaster, O.**—The question of the construction of a sewer in District No. 1 is still unsettled; Mr. Cowden, Chairman of the Sewerage Committee, states that the opinion of sanitary engineers and State Board of Health as to the character of the structure will be secured.

**Springfield, O.**—Specifications and estimates for a combined sanitary and storm water sewer in Ludlow avenue are now ready for the inspection of interested parties.—F. G. Crothers, Clerk of Council.

**York, Pa.**—The plans of Engineers Hering and Fuller for the completion of the sanitary sewer system of this town have been accepted; the cost will be \$400,000, including the disposal plant.

**Bonham, Tex.**—Plans and estimates are being prepared for sewerage system.

**Centralia, Wash.**—An election will be held to vote on the question of issuing \$22,500 bonds for the construction of trunk sewers.—Address City Clerk.

**Elkins, W. Va.**—A bond issue of \$40,000 has been authorized, the proceeds to be applied to the extension of the sewerage and water works systems.

## WATER SUPPLY

**Arkadelphia, Ark.**—Council has directed plans and estimates to be prepared for water system to cost \$30,000.—Address City Clerk.

**Conway, Ark.**—A stock company is being organized for the establishment of a water and sewer system.—Address City Clerk.

**Denver, Col.**—The Denver Union Water Company will spend \$700,000 for improvement.—Daniel H. Moffat, President.

**Emeryville, Cal.**—Bids for a franchise for a salt water system will be received.

**Trinidad, Col.**—The Hudson Ditch Reservoir Company has been incorporated to construct a reservoir of 65,000,000 gallons in Apishopa Valley.

**Washington, D. C.**—Citizens of the Highlands have asked Com. Morrow for water service.

**Chicago, Ill.**—The Rogers Park Water Works will be bought by the city.

**Decatur, Ill.**—Council has been advised by its special engineer to lay 30,000 feet 6-inch water mains, 20 blocks of 12-inch pipe and 4 blocks of 16-inch pipe.

**Indianapolis, Ind.**—The Indianapolis Water Company has purchased a site north of the Country Club on which it will erect a reservoir with a capacity of 190,000,000 gallons of water to cost about \$110,000; L. C. Boyd, Vice-President of the water company, declines to give out at this time a full detail of the plans which the company has in view.

**Frankfort, Kan.**—Plans and specifications for constructing water works are being prepared by Burns & McDonnell, 709 Dwight Bldg., Kansas City, Mo.

**Marion, Kan.**—The citizens have voted \$30,000 bonds for water supply.

**Louisville, Ky.**—A new main will be laid on Broadway from Sixteenth to Twenty-eighth street.

**Hinsdale, Mass.**—Mains will be laid on certain streets.

**North Adams, Mass.**—The cost of a reservoir is being estimated.—Roswell Gardner, City Engineer.

**Cumberland, Md.**—Council has directed the Water Board to secure plans and estimates on water system.

**Lansing, Mich.**—The proposition to issue \$300,000 bonds for a water works is being considered.

**Stambaugh, Mich.**—Water works will be built at a cost of \$10,000.

**Dawson, Minn.**—A water works and light plant will be built at a cost of \$30,000.—O. Claussen, C. E., St. Paul.

**East Grand Forks, Minn.**—A new site will be purchased for the water works.

**Hibbing, Minn.**—The Buffalo & Susquehanna Mining Company proposes to furnish the city with water; it is proposed to expend \$100,000 to build a pumping station at the Penobscot mine, near this place.

**St. Joseph, Minn.**—Estimates for a water works are being made.

**Exeter, Neb.**—Plans and specifications for a water works to cost \$15,000 are being prepared.—Burns & McDonnell, 709 Dwight Bldg., Kansas City, Mo.

**Carson, Nev.**—The Board of City Trustees has taken preliminary steps towards the securing of a municipal water system and has engaged an engineer to run survey.

**Bayonne, N. J.**—The Committee on Water, Streets and Drainage has been authorized to purchase the following supplies for the Water Department: Twelve 2½-inch fire hydrant brass nozzles, two 6-inch Trident Crest train gears (216-422 Crest), two 3-inch meters, one 4-inch meter, one box of

candles, one box of charts for recording gauge No. 4990, 300 pounds of wool lead at 12½ cents a pound, two chain hooks complete with nuts and washers for Mueller tapping machine, two ½-inch taps for Mueller tapping machine, one ¾-inch tap for Mueller tapping machine, twelve fire hydrant extension pieces, twelve valve hydrant extension valve rods, 200 fire hydrant flange bolts, one lead melting furnace, one bale of white cotton waste, two diaphragms for ditch pump, twelve 1-inch Hersey galvanized bottoms, disc, twenty-four ¾-inch Thompson Reg. bottoms, eight holes, 500 ¾-inch Thompson Reg. flange bolts, one doz. Dietz lantern globes, red; two doz. hack saw blades six No. 6 by 32 machine taps, 25 feet of 1¼ leather belting, two 1-inch tapping drills, two doz. ¾-inch to 1½-inch reducers, Adopted.

**Camden, N. J.**—Two stand pipes will be built and new wells sunk.—L. E. Farnham, City Engineer.

**Kingsland, N. J.**—A petition for extension of water works is being circulated. Cost, \$22,000.

**Brewster, N. Y.**—A bill passed by the Legislature has been approved by Charles E. Hughes, Governor, authorizing the village of Brewster to issue bonds to pay the cost of establishing system of water works for supplying water to the village; the Board of Trustees and citizens already have approved the project; the cost of the water works system is not to exceed \$50,000.

**Niagara Falls, N. Y.**—City Engineer Read has submitted a plan for the construction of a water works system in which he proposes to use the Canadian channel; the plant will cost \$400,000; W. W. Read, the engineer, will submit copies of his plan to anyone desiring further information.

**Oswego, N. Y.**—The taxpayers have voted to sanction the purchase of strip of land for high dam site.—Address Mayor Smith.

**Sidney, N. Y.**—The Town Board has under consideration the establishment of a water plant.

**Maxton, N. C.**—J. M. Brandy, of Greenboro, N. C., has been directed to prepare plans for a water works system.—Address City Clerk.

**Ashland, O.**—Plans for improvements to the works are being prepared by Engineer Niederheiser.

**Barnesville, O.**—The town is considering the advisability of erecting a \$5,000 elevated tank for the water works.

**Leesburg, O.**—Bids will be opened, July 20, for \$4,000 4½ per cent. semi-annual bonds for water works improvements.—C. B. Cox, Village Clerk.

**Marion, O.**—The Marion Water Company will lay three miles of new pipes this year at a cost of about \$22,000.

**Manchester, Okla.**—A water works system will be built.—H. W. Reneau, Chm. Comm.

**Mountain View, Okla.**—A water works system will be put in.

**Bryant, S. D.**—A filtration plant is being considered.

**Palestine, Tex.**—The Railway Company has petitioned Council to extend water mains for fire protection purposes.

**Nashville, Tenn.**—A vote will be taken on the question of issuing \$2,500,000 for water works improvements.

**Norfolk, Va.**—An ordinance is pending to appropriate \$25,000 for the purchase of 1,000 water meters.

**Grafton, W. Va.**—Council has appropriated \$8,000 for new water mains.

**Wheeling, W. Va.**—An extension of water works and 150,000,000 gallon reservoir are recommended by Mayor Schmidt.

**Gays Ellis, Wis.**—The citizens have voted \$17,000 bonds for the construction of a water system.

**Fond du Lac, Wis.**—A pipe line for fire protection will be laid from Lakeside Park.

**Toronto, Ont., Can.**—The matter of raising \$700,000 for water works will be left to a vote of citizens.—City Engineer Rust.

## LIGHTING AND ELECTRICITY

**Scottsboro, Ala.**—The building of an electric light plant is being considered.

**Pine Bluff, Ark.**—The Pine Bluff Light and Water Company purchased the Bluff City mill property on Fourth avenue, and a site for the erection of a new water and light plant.

**Columbus, Ga.**—An ordinance has been passed calling an election, October 10, for issuing \$100,000 4 per cent. 25-year bonds for a municipal lighting plant.

**West Point, Ga.**—Surveys have been completed for constructing proposed hydroelectric plant on the Chattahoochee river; Messrs. Stone & Webster, 84 State street, Boston, are financing the scheme.

**Atwood, Ill.**—The proposition of building a municipal electric light plant is being discussed.

**Kilbourne, Ill.**—E. H. Parker has decided to establish an electric light plant; the plant will be ready within sixty days.

**Lemont, Ill.**—A special committee of the Village Board and officials of the Lemont

Electric Light Company held a conference recently to consider the purchase of an electric plant by the city.

**Davenport, Ia.**—Council and representatives of the two gas and electric light companies are conferring in regard to laying conduits in streets and alleys.

**Parsons, Kan.**—Council is considering a proposition to decrease the cost of lighting the city by electricity.

**Topeka, Kan.**—The Water Works Trustees have decided to establish a small electric light plant at the pumping station for the exclusive use of the station.—Jesse Shaw, Superintendent.

**South Haven, Mich.**—An election will be held next week on issuing \$54,000 worth of bonds, a large portion of which will be applied to the improvement of the harbor and to the power plant of the electric lighting company.

**Meridian, Miss.**—The Meridian Light and Railway Company intends to increase its capital to extend the railway and lighting plant.

**Kansas City, Mo.**—The Directors of the Kansas City Western Electric Company have decided to build a power house; the site has not yet been chosen; it may be located in Leavenworth.—Conway Holmes, President.

**Stanhope, N. J.**—D. M. Cook, of Newark, has organized a company, and purchased the plant and holdings of Edward T. Willis; the plant furnishes electricity for lighting Stanhope and Netcong; articles of incorporation will soon be filed.

**Corinth, N. Y.**—The Corinth Electric Light and Power Company has been incorporated with a capital stock of \$25,000 to operate in Saratoga County.—Warren Curtis, of New York; Warren Curtis, Jr., of Corinth, and E. B. Coolidge, of Glens Falls, incorporators.

**Fredonia, N. Y.**—The Frost Gas Company, of this place, which supplies natural gas, was given consent to issue \$50,000 additional capital stock with which to drill new wells and to extend its mains to the towns of Pomfret, Sheridan and Dunkirk.

**Oneida, N. Y.**—The Central New York Light & Power Company, of Utica, has applied for franchise to do a gas and electric light business in this city.

**Niagara Falls, N. Y.**—The Niagara Electro Chemical Company, of Niagara Falls, which is installing the equipment in their new addition recently completed, has had plans prepared for another large addition of brick and steel construction, 122x210 feet; the new addition will include a transformer room 34x122 feet, and will cost \$35,000.—R. C. Fayfield, Buffalo, Engineer.

**Utica, N. Y.**—There has been filed in the office of the County Clerk the merger of the Herkimer County Light, Heat & Power Co. with the Utica Gas & Electric Company; the order also permits the Utica Gas & Electric Co. to issue a mortgage for not to exceed five million dollars at 5 per cent. for refunding and extension; of the amount authorized but \$2,000,000 will be issued immediately, and this will be used to pay the floating indebtedness and to pay for extensions that are now in progress.

**Spray, N. C.**—The Rhode Island Company, Spray, N. C., will purchase a 100-horsepower motor and a 75-horsepower motor for 2,400-volt, 60-cycle, three-phase circuit.

**Youngstown, O.**—The Youngstown Sheet & Tube Company will expend \$500,000 improving its plant; the improvements will include an electric power plant.

**Lawton, Okla.**—Larsh & Kender, owners of the Norman Light Electric plant, purchased the Lawton Electric Light plant.

**Oklahoma City, Okla.**—The Tulsa Electric Light Company has been incorporated with a capital stock of \$15,000 by R. D. Campbell and D. M. Martindale, of Tulsa; H. F. Burt, of Oklahoma City.

**Braddock, Pa.**—W. J. Hally, of Wilmerding; Philip Geiss, of East Pittsburgh, and Henry Harris, of Braddock, are preparing to incorporate three electric lighting companies to be known respectively as the Braddock, the East Pittsburgh and the North Braddock Electric Light Companies.

**Gallitzin, Pa.**—The Borough Council has authorized the signing of a lighting contract with the Gallitzin Electric Light Company; the contract calls for twenty-five arc lights at \$60 per year each and is for five years, commencing October 1 next.

**Brownville, Tex.**—An election will be held to vote on the question of issuing \$70,000 in bonds for water and lighting plant.

**Waco, Tex.**—Council has enacted an ordinance granting to Joseph J. Henry a franchise for the construction of an electric light and power plant; the franchise was given for a period of fifty years; Mr. Henry expects to use lights located forty miles south of Waco.

**Ogden, Utah.**—Council has passed an ordinance providing that the committee on electric lighting be given authority to make arrangements and secure water power site and rights.

**Salt Lake City, Utah.**—The Utah Light and Railway Company is engaged in expending \$3,000,000 in improving its system.



**Palestine, Tex.**—The Palestine Electric Company has reorganized the Palestine Electric & Ice Co., capital, \$140,000; improvements will be made.—B. F. Dubose, Secretary.

**Washburn, Wis.**—Council has authorized the Special Lighting Committee to purchase outside electrical equipment and business of the Washburn Electric Light and Power Company; Council has also authorized the committee to purchase machinery and put water system in operation; it is proposed to build a pump two miles from the city to secure power for the purpose of lighting the city.

## FIRE EQUIPMENT

**San Jose, Cal.**—The citizens have voted \$95,000 bonds for fire protection.—Address Clerk of the Fire Board.

**Columbus, Ga.**—An election will be held, October 10, to decide the question of issuing \$100,000 bonds for municipal lighting system.—Address City Clerk.

**Girard, Ga.**—A disastrous fire occurred in Girard; the town is without fire protection.—Address Village Clerk.

**Aurora, Minn.**—The citizens will vote on the question of issuing \$25,000 bonds for constructing school.—Address Clerk of the Board.

**East Bridgewater, Mass.**—A new fire company has been organized.—W. M. Ward, Chief.

**St. Paul, Minn.**—The residents of McAllister Park have petitioned for improved fire protection; engine house and fire apparatus is required.—Ruben Warren, President of Fire Board.

**North Bergen, N. J.**—Plans for the new \$15,000 fire house have been submitted and accepted by Council subject to minor alterations.—Address Mayor Lutz.

**Hornell, N. Y.**—The Hornell, Bath and Lake Kanka Railway Company will issue \$2,000,000 in bonds for improvements.

**Altoona, Pa.**—The Wholesale Merchants' Association has petitioned Council to improve the fire protection.

**Claysville, Pa.**—The citizens will vote on the question of issuing \$10,000 in bonds to aid in the construction of bridge.—Address City Clerk.

**Fayette City, Pa.**—Arrangements are being made to organize a fire company; the town is without fire protection.

**Manchester, Pa.**—A fire company is being organized; arrangements are being made to purchase equipment.—Address Clerk.

**Knoxville, Tenn.**—Arrangements are being made to build a fire hall in East Knoxville.—W. O. White, Chairman of the Board.

**Newberry, Tenn.**—Bids will be received, July 23, for the purchase of \$50,000 6 per cent. 10-year school and public improvement bonds.—H. J. Swindler, Mayor.

**Warwood, W. Va.**—A volunteer fire company is being organized.

**Gay Mills, Wis.**—Bonds, \$7,000, have been voted for fire protection.

**Madison, Wis.**—Council has authorized the purchase of an 85-foot aerial ladder truck.—J. A. Simon, Chairman Committee on Fire and Water.

**Racine, Wis.**—Plans have been completed for building an engine house in Simonson addition.—Jas. Mutter, Director, Board of Public Works.

## PUBLIC BUILDINGS

**Birmingham, Ala.**—The citizens of Jackson county have voted \$500,000 bonds for the erection of Court House.—Address County Clerk.

**Hartford, Conn.**—The Legislature may appropriate \$1,500,000 for the erection of a State Library, and for repairs on the State Capitol; also \$500,000 for the erection of a State arsenal and armory.

**Buckley, Ill.**—Bonds, \$10,000, have been voted for school purposes.

**Kankakee, Ill.**—Kankakee County is agitating the question of issuing \$250,000 Court House bonds.—Address County Auditor.

**Norway, Ia.**—An election will be held to vote on the question of issuing \$11,000 bonds for the erection of school house.—Address Clerk of the Board.

**Whitesville, Ky.**—An election will be held, August 3, to vote on the question of issuing bonds for the erection of school house.—Address Clerk of the Board.

**Hardin, Ill.**—The Board of County Commissioners of Calhoun County will receive sealed bids for the construction of bridge across Bay creek, four miles southwest of Bellevue, according to the following specifications: bridge shall be 60 feet from center to center, of end pins in length and the trusses shall be 7 feet in height, center to center of pins.—John Day, Jr., County Clerk.

**Haverhill, Mass.**—The Board of Aldermen has authorized an issue of \$45,000 school bonds.—Roswell L. Wood, Mayor.

**Medford, Mass.**—Agitation, backed by influential citizens, has been started for the erection of a new City Hall to cost between \$130,000 and \$150,000.—Address Marquis M.

Converse, Willard Dalrymple, or Ex-Alderman Walter G. Cushing.

**Port Huron, Mich.**—Council has notified the Grand Trunk Railway to build a new viaduct at South Military Street at once.

**Bemidji, Minn.**—Bids will be received, July 15, for the purchase of \$35,000 5 per cent. school bonds, payable in 15 years.—Graham M. Torrance, Clerk.

**Kilmichael, Miss.**—An election will be held, July 16, to vote on the question of issuing \$6,000 school bonds.—Address Clerk of the Board.

**Independence, Mo.**—The citizens have voted \$20,000 additions school bonds.—Address Clerk of the Board.

**Independence, Mo.**—The citizens have voted \$35,000 bonds for the erection of school house.—Address Clerk of the Board.

**Sidney, Neb.**—The citizens are preparing to issue \$15,000 bonds for the erection of school house.—Jas. L. McIntosh, Clerk of the Board.

**Passaic, N. J.**—Bonds, \$12,250, will be issued for the purchase of a high school site and \$60,000 for erecting school in the Fourth Ward.—Thomas R. Watson, City Clerk.

**Roxboro, N. C.**—The citizens have voted \$20,000 school bonds.—Address Clerk of the Board.

**Kenmare, N. D.**—Bonds, \$20,000, have been voted for the erection of school house in District No. 28.—Address County Clerk.

**Port Henry, N. Y.**—Bids will be received, July 15, for the purchase of \$8,000 5 per cent. City Hall bonds.—Address City Clerk.

**Cincinnati, O.**—The Finance Committee has under consideration an issue of \$35,000 bonds for remodeling City Hospital.—W. C. Culkins, City Auditor.

**Hooker, Okla.**—Bonds, \$3,000, have been voted for school purposes.—Address Clerk of the Board.

**Batesburg, S. C.**—The citizens have voted bonds for the erection of high school building.—Address Clerk of the Board.

**Iva, S. C.**—Bids will be received, July 25, for the purchase of \$6,000 school district No. 44 bonds; interest 5 per cent., payable in 20 years.—W. Frank McGee, Trustee.

**Marysville, Tenn.**—Bids will be received, July 15, for the purchase of \$40,000 5 per cent., 3-10-year Blount county Court House bonds.—J. L. Clemens, Chairman of the County Court.

**Ft. Stockton, Tex.**—The Attorney General has approved an issue of \$15,000 school bonds.—Address Clerk of the Board.

**Gainesville, Tex.**—The Cooke County Board has authorized an issue of \$8,000 jail bonds.—Address County Clerk.

## STREET RAILWAYS

**Russellville, Ark.**—Engineer J. C. Wilson, Manager of the Southern Engineering & Construction Company, is preparing to build a dam and power plant on the Illinois River five miles from town; this plant will generate power for the electric plant and electric car lines in the city.

**Pensacola, Fla.**—The Pensacola Electric Company will build a belt line, and also double-track part of its line.

**Chicago, Ill.**—The Chicago City Railway Company is arranging for a bond issue of \$21,000,000 with the First Trust & Savings Bank as trustees.

**Red Fork, I. T.**—The Sequoyah Park Company has been organized for the purpose of building electric line, and improving Sequoyah Park; \$100,000 will be expended for improvements and electric lines; the electric line will be eleven miles in length.

**Louisville, Ky.**—Council has granted the Chicago, St. Louis & New Orleans Railroad Company, the Kentucky & Indiana Bridge and Railroad Company and the Louisville & Nashville Railroad Company rights to construct single tracks or switches and trestles on various streets.

**Shreveport, La.**—S. A. Guy is arranging to build a new belt line street railway; Chicago capital is interested; the Shreveport Traction Company proposes to build extensions.

**New Orleans, La.**—The New Orleans Railway Company proposes to expend \$1,000,000 in improving tracks and rolling stock; several extensions will also be made.

**Mankato, Minn.**—The parties interested in the franchise recently granted by Council to construct and operate an electric street railway line have just organized the Mankato Electric Traction Company, under the laws of West Virginia, with a capital stock of \$175,000; work on the line must be begun by July 1.

**Rochester, N. Y.**—The Buffalo, Genesee & Rochester Railway Company has been granted a franchise to build a double-track trolley between Depew and Rochester, and to issue \$5,000,000 mortgage to raise funds; J. T. Mooney, General Superintendent of the Buffalo & Depew, will build the extension.

**Hornell, N. Y.**—The Hornell, Bath & Lake Keuka Railway Company has been authorized to issue \$2,000,000 bonds to be used in construction.—J. F. Turk, Promoter.

**Defiance, O.**—The Toledo, Wabash & St. Louis Railway Company has petitioned for franchise to operate an electric line in the city streets.

**Lorain, O.**—Engineer Burk, of the Cleveland, Southwestern & Columbus Traction Company, will have plans ready soon for the new belt line which the company is to build here.

**Reading, Pa.**—The United Traction Company contemplates double tracking its Temple line, and it is probable that this will be done at an early date.

**Bristol, Tenn.**—The Bristol Belt Line Railroad Company has been granted franchise for use of the city streets.

**Gainesville, Tex.**—E. W. Wichey, representative of Chicago capitalists, has secured from Council a renewal of the franchise granted some time ago for a Gainesville-Whitesboro-Sherman interurban electric road for one year from July 1, 1907.

## BRIDGES

**Denver, Col.**—If the Burlington Railroad approves the plans prepared, a magnificent steel viaduct will be constructed on Twentieth street, connecting East and North Denver; the cost will be at least \$500,000; the viaduct will be built and maintained by the roads that traverse that section of the city.

**Terryville, Conn.**—Active work will soon commence on the new bridge near the old work shop; the structure will cost about \$1,500, and will be about forty-two feet wide.

**Chandlersville, Ill.**—Sealed bids are being advertised for by the County Commissioners for a steel bridge to be constructed over Prairie creek, to replace the one known as the Gebhardt bridge.

**Streator, Ill.**—Council has petitioned the county to act in building bridge estimated to cost \$7,250.

**Frankport, Ind.**—The County Commissioners will receive bids for the construction of an 8-foot concrete arch over Goldsberry ditch on White gravel road, one-half mile east of Colfax, and concrete arch on Cambria and Fair Haven gravel road, about one-half mile east of Cambria, known as Hamilton arch.—C. F. Cromwell, Auditor, Clinton County.

**Paris, Ia.**—Arrangements are being made to build a bridge over Henderson Ford, Linn County, near Paris.—Address County Auditor, Marion.

**Wichita, Kan.**—Sealed bids will be received by the County Commissioners for furnishing all materials and labor and building reinforced concrete bridge over the Arkansas river on Douglas avenue; copies of proposals, general plans, specifications, bonds, contract and instructions will be mailed upon application to Claude N. Cartwright, County Clerk, or Geo. H. Bradford, Engineer; E. P. Martin, Chairman.

**Louisville, Ky.**—The Louisville and Jefferson Bridge Company have postponed the sale of \$1,000,000 in bonds issued for the construction of bridge.—Address Secretary of the Bridge Company.

**New Orleans, La.**—A bridge over the Bayou St. John at Esplanade street for the use of vehicles and street cars is soon to be built; it will be a double track bridge.—W. J. Hardee, City Engineer.

**Benton Harbor, Mich.**—Plans for the construction of two new bridges in the St. Joseph harbor are being pushed forward rapidly; one is the bridge which will connect the heart of St. Joseph's business district with the acres of land north of the river, and the other is the highway bridge.

**Ishpeming, Mich.**—The Board of Supervisors has referred the matter of repairing the lower bridge over the Escanaba river to the Bridge Committee with full power to go ahead and make the repairs.

**Pembina, N. D.**—The County Commissioners are advertising for tenders for the construction of five small steel bridges.—Address Auditor of Pembina County.

**Akron, O.**—Council and the railroad companies have agreed on plans for viaduct; the plans accepted were those prepared by the E. & O. Railroad engineer, and provided for one truss span over the main tracks and for two plate girders spans across the sidings; Engineer John Payne will now start his force at work working out the detailed plans, and specifications of the viaduct and estimates will be ready for submission in a month.

**Portsmouth, O.**—The County Commissioners have approved the engineer's plans for a cement culvert to replace the spider bridge over Bonser's Run, near Scotoville, and also plans for a stone or concrete culvert over Turkey Run in New Boston, just in front of Eckhart and Kent's stable; bids will be advertised for the letting of the work at once.

**Toledo, O.**—The Board of Public Service is about to advertise for the erection of a \$550,000 reinforced concrete bridge across the Maumee river; the Osborn Engineering

Company, Cleveland, will engineer and superintend construction.—Reynold Voit, Secretary.

**Bethlehem, Pa.**—At a joint meeting of the Commissioners of Lehigh and Northampton counties, together with officials of the Lehigh Valley Transit Company and Bethlehem borough officials, it was decided to replace the old Broad street bridge with a new 60-foot up-to-date structure of reinforced concrete, providing the Borough of Bethlehem and the Lehigh Valley Traction Company agree to certain provisions, which are practically assured.

**Austin, Tex.**—The Electric Construction Company, of Dallas, has been incorporated with a capital stock of \$20,000 by W. M. Brooks, Wallace S. Stroud, J. Lee Norman and a number of others.

**Fort Worth, Tex.**—The matter of building a new bridge over the Trinity river or enlarging the present structure is being considered by Council.

**Guthrie, Tex.**—The Attorney General has approved an issue of \$1,575 King County bridge repair bonds.

**Lehi, Utah.**—County Surveyor Wentz has taken measurements and made soundings for a new bridge which the county will build over the Jordan, where the county road crosses the river west of town; the bridge will be built of steel and will be about 100 feet long; specifications will be gotten out at once and construction commenced in the early fall.

**Wheeling, W. Va.**—The County Commissioners will have plans prepared for a bridge over creek, which will be modern in every way, and if possible will have no wood about it and will have concrete floors; the proposed bridge will also be much heavier than the present one; the Traction Company will likely be asked to assist in building the bridge.

**Winnipeg, Man., Can.**—The Board of Control recommends that the amended plans of Redwood bridge providing for two 100-foot clear spans be approved, and the City Solicitor instructed to forward such plans to Ottawa for approval by the Dominion Government Department of Public Works.

## MISCELLANEOUS

**Baltimore, Md.**—Specifications are being prepared by the Commissioner of Street Cleaning for the removal and final disposition of garbage, dead animals and market refuse for the City of Baltimore, Md., for a period of ten years.—Colonel J. L. Wickes, Commissioner of Street Cleaning.

**Detroit, Mich.**—Bids will be received, July 6, until 12 o'clock, noon, for underground cables for the police signal service.—Chas. A. Nichols, Secretary of the Police Service.

**St. Paul, Minn.**—The City Sinking Fund Commissioners have decided to offer for sale, July 17, \$150,000 bonds for the construction of sewers and \$50,000 for the improvement of the city system of parks; all the bonds will run thirty years and bear four per cent. interest.

**Cambridge, O.**—Bids will be opened, August 3, for \$38,000 4 per cent. semi-annual bonds, for extending water works system, repairing bridges and for other public improvements.—T. R. DeSelm, City Auditor.

**Cincinnati, O.**—Bids will be received, July 18, for the purchase of \$30,000 refuse disposal bonds; interest, 3.65 per cent., payable in twenty years.—W. C. Culkins, City Auditor.

**Lorain, O.**—An ordinance is before Council authorizing an issue of \$15,000 bonds for building river wall.—Address City Auditor.

**Bluefield, W. Va.**—The city has voted \$100,000 5 per cent., 30-year bonds for improvements.—E. E. Carter, Mayor.

## BIDS RECEIVED

**Redding, Conn.**—B. D. Pierce, Jr., Bridgeport, has received a contract for the construction of a macadam and gravel road for \$3,951.70.

**Washington, D. C.**—Commissioner Macfarland has approved the recommendations of Chief Engineer William F. Selt, of the Fire Department that the bid of \$4,000 of the American La Grance Fire Engine Company to furnish a 75-foot aerial hook and ladder truck be accepted, the contract to include equipment of 75-foot aerial ladder, axes, lanterns, etc.; the bid of the Dunnigan Plumbing Company of \$21,629 for the proposed remodeling of the plumbing in the Abbott, Adams, Smallwood and Van Buren public schools has been approved for acceptance by Capt. Jay J. Morrow, Engineer Commissioner.

**Quincy, Ill.**—The Board of Local Improvements has opened bids for the paving of Second street, from Maine to Vermont, and the contract was awarded to Henry Rees, whose bid was: for paving with Galesburg brick, \$1.474 a square yard; with Quincy brick, 10 cents lower; straight curbing, 60 cents; radius curbing, 83 cents; Ebert & Shanahan bid: for paving with Galesburg

brick, \$1.49%; curbing the same as Rees' bid; Peter Simons' bid was: for paving with Galesburg brick, \$1.49%; Quincy brick, \$1.38; curbing the same as the above two.

**Elkhart, Ind.**—Contractor Berkey, of the Northern Construction Company, who has the contract for the Indiana avenue trunk line sewer, will begin work soon; the work will require one year to complete.

**Fort Wayne, Ind.**—The Board of Public Works has awarded the contract for turbines, dynamos and condensers in the new municipal lighting plant to the Fort Wayne Electric Works at a cost of \$42,500; other bids for lamps, transformers, etc., will bring the value of the contract up to about \$75,000; over forty proposals were submitted.

**Vincennes, Ind.**—A contract for cement sidewalks has been let to Foulks, Forbes & Co., of Terre Haute, at their bid of 11½ cents for sidewalks, 45 cents for stone curbing and 5 cents for resetting stone curbing.

**Louisville, Ky.**—George U. Gosnell and R. Lee Figg were low bidders on forty-three fire hydrants, at \$153 to \$156 per hydrant, according to the extent of connections to be laid.

**Boston, Mass.**—Bids for Mechanics Art High School were as follows: McNeil Bros., \$19,200; C. H. Belledue, \$17,762.

**Medford, Mass.**—Bids were opened as follows for additional span, Craddock bridge: Jones & Meehan, \$51,950; Austin Eng. & Const. Co., \$39,970.

**Brookline, Mass.**—T. J. O'Connell, of Dorchester, was low bidder for constructing part of Section 82, Contract 57, extension of high level sewer, south metropolitan system, at \$30,412.50, as follows: 1,350 lineal feet earth excavation and refilling in trench 6 feet 6 inches by 7 feet sewer, at \$8.75; 50 cubic yards brick masonry Portland in manholes, at \$16; 2,000 cubic yards concrete masonry Portland in trench, 6 feet 6 inches by 7 feet, at \$8; 300 cubic yards rock excavation in trench, at \$6; the bids were: George M. Byrne Co., Boston, \$40,725; Falvey & Kelly, Dorchester, \$38,925; Charles G. Craib & Co., Winthrop, \$38,475; Bruno, Solomon & Pettiti, Boston, \$37,412.50; George J. Regan, Dorchester, \$37,287.50; James Driscoll & Son., Brookline, \$37,200; Jones & Meehan, Boston, \$36,100; Coughlan & Shells, Boston, \$30,415.

**Haverhill, Mass.**—Bids for new school were opened as follows: E. T. Wilson, \$45,527; A. Beurneuf, \$38,950; F. C. Alexander, \$38,653; Kelley Bros., \$36,887; H. H. Libbey, \$35,985; John M. Roche, awarded, \$34,836.

**Grand Rapids, Mich.**—Bids have been received for paving Federal street from Broadway and Haddon avenue, as follows: Barber Asphalt Company, 6-inch asphalt, \$2.19 per square yard; 4-inch, \$1.99; Belgian block, \$3.35; Sweeten & Son, Belgian block, \$2.45; wooden blocks, \$2.45; wooden blocks, \$2.50; United States Wood Preserving Company, wooden blocks, 3-inch, \$3.15; 3½-inch, \$3.40; 4-inch, \$3.65.

The Joliet Bridge & Iron Co., Joliet, Ill., has been awarded contract to erect superstructure of Ann Street Bridge, at \$36,500, work to be completed December 20, 1907; other bids were: Elkhart Bridge & Iron Co., Elkhart, Ind., \$40,000, April 1, 1908; Capital Construction Co., Columbus, O., \$38,750, December 20, 1907; The Attica Bridge Co., Attica, Ind., \$40,995, May 20, 1908; the Penn Bridge Co., Beaver Falls, Pa., \$40,838; February 1, 1908; Groton Bridge Co., Owosso, Mich., \$44,250; January 31, 1908; Toledo, Massillon Bridge Co., Toledo, O., \$39,500, February 25, 1908; The Cowing Engineering Co., Cleveland, O., \$41,790, May 1, 1908.—L. W. Anderson, City Engineer.

**Paw Paw, Mich.**—Contract for the hydroelectric dam has been awarded the Fulkman Electrical Construction Company, Chicago, Ill., at \$34,964.—Wm. H. Mason, City Clerk.

**Exeter, N. H.**—Ablett & Bowes, of Cohoes, N. Y., were low bidders for constructing sewer, at \$6,776.35, as follows: 355 feet 6-inch pipe, 25-30 cents; 916 feet, 8-inch sewer, 30-35 cents; 1,815 feet, 15-inch, 60 cents to \$1.85; 2,500 feet, 18-inch, from 50 cents to 2; 16 manholes, from \$30 to \$85; catch-basins, \$24 each; Burnham and Poor, North Andover, Mass., bid \$6,807.65; John E. Palmer, Boston, Mass., \$7,897.95; Joseph O'Rourke, Boston, Mass., \$8,220.

**Hancock, N. H.**—Coughney & Schofield, Waltham, Mass., were low bidders for the Hancock water system, at \$4,647.40, as follows: laying 8,800 feet 8-inch pipe, at 23 cents; 6-inch pipe, 20 cents; setting 8-inch gates at \$2, 6-inch gates at \$1.60, and hydrants at \$4; 200 yards, rock excavation, at \$4; 1,000 yards, earth excavation, at 65 cents; masonry, second class, at \$6.60 per cubic yard, concrete, at \$8 per cubic yard and gate house, at \$65; other bidders were: Osgood Con. Co., Nashua, N. H., \$6,260; Burnham & Poor, North Andover, Mass., \$7,074, and W. B. Brine, Boston, Mass., \$7,252.

**Bayonne, N. J.**—Contracts have been awarded as follows: T. J. McGovern, for improving Twenty-third street from Avenue C to Avenue E, at \$13,155.90, and Twenty-first street from Boulevard to Avenue D,

at \$12,722, and Mr. Van Keuren for Avenue A, from Thirty-fourth to Thirty-first streets, and Thirty-third street, from Avenue A to the boulevard, at \$9,956.

The Committee on Schools has recommended that the Calumet Construction Company be awarded contract to erect new No. 9 school house, at \$114,000, the bid of the O'Leary Company, which was a trifle over \$108,000, being defective.

**Hoboken, N. J.**—Bids for laying a 30-inch and 24-inch water main from Seventeenth to Ferry street were received as follows: Palisade Construction Company, of Weehawken, \$88,176; Tumulty & Cutley, of Jersey City, \$92,380; John C. Tierney, of Hoboken, \$94,516; Henry Waddington, of Hoboken, \$97,774; M. T. Connolly Construction Co., of Jersey City, \$117,419.

**Plainfield, N. J.**—The Hassam Paving Company, Worcester, Mass., is the low bidder for the paving of West Second street, at 57 cents per lineal foot; N. B. Travell was low bidder on four streets, as follows: Cottage place, \$1.02; Park lane, 98 cents; Elmwood place, \$1.15; and College place, \$1.16; C. M. Meeker was the lowest bidder on six streets, as follows: Randolph road, 92 cents; Arlington place, 95 cents; Denmark road, \$1.96; Sycamore street, \$1.60; Hillside avenue, \$1.80, and West End avenue, \$2.14.

**Rochester, N. Y.**—The Board of Contract and Supply has awarded contracts for paving Clifford street to Whitmore Rauber and Vicinus with Jamestown brick at \$44,000; Webster avenue will be paved by F. A. Brotsch & Son for \$29,995.

**Akron, O.**—E. McShafrey & Son have the contract for paving Miller avenue with Akron paving block for \$11,000.

**Ashtabula, O.**—The contract for paving Tyler avenue has been awarded to Putnam & Fitzgerald for \$7,413.

**Athens, O.**—The Capital Construction Company was low bidder for erecting new steel bridge over Hocking river, at \$11,780; the Columbus Bridge & Iron Co. bid \$12,580, and the Champion Bridge Co. \$12,180 for plan A and \$14,400 for plan B.—E. R. Walker, Auditor, Athens County.

**Columbus, O.**—Harry J. Shaw has been awarded the contract for paving Fulton street at \$35,319.

**Delphos, O.**—Contracts for the construction of two new sewers have been awarded to Paul and Kirschner, of Dayton.—C. L. McGibbon, Engineer.

**Syracuse, N. Y.**—Bids were received, June 10, for asphalt paving; a contract for 620 square yards was awarded to F. J. Baker at \$2.45 per square yard; another contract was awarded to the same bidder at \$3.55; the Central City Paving Co. was awarded a contract for 8,660 square yards at \$2.29.

On June 24 bids were received for Portland cement concrete sidewalks, 3½-inch thick on 4-inch cinder foundation; the Artificial Paving Co. was awarded 4,100 square feet at 11 cents; Hill & Van Wagner were awarded 7,900 square feet at 11.9 cents.—Henry C. Allen, City Engineer.

The Chase Motor Car Company has been awarded contract for a runabout gasoline automobile for the Department of Public Works at \$683.

**Caldwell, O.**—Chas. Barry, of Woodsfield, has the contract for paving the streets around the Public Square at \$1.675; Townsend block, cement filler and a curb of Berea stone is to be used.

**Cincinnati, O.**—The United States Wood Preserving Company has a contract for paving Albany avenue at \$40,000, and the Kirschner Construction Company will pave McMullen street at \$31,000.

**Cuyahoga Falls, O.**—John J. O'Neill, of Akron, has been awarded contract for paving South Front street; he also has contract for paving North Front street.

**Dillonvale, O.**—Dixon and Pickett are low bidders for paving and furnishing brick for a dozen street improvements and the firms of Archer and Day and Rosser and Maloney, of Bellaire, received a large number of other contracts for brick; Warnick and Timmons, of Cadiz, have a contract, also, amounting to about \$2,700 for brick paving.

**East Liverpool, O.**—Allison and McCullom are low bidders for paving Wellsville road at \$13,392; Rinehart Brothers have contract for paving Fifteenth street, although not the lowest bidders.

**Loudonville, O.**—The contract for paving Main street will probably be awarded to J. W. Paulo, D. A. Phillips or Fowler and Cole, their bids being practically the same, approximately \$18,000; the kind of brick to be used has not been fully determined.

**Marietta, O.**—Cisler and Peters are the low bidders for paving Fourth and Marion streets at \$6,000; Virginia street will be paved by Putnam and Price at \$8,417; no awards have been made for paving Maple street.

**Medina, O.**—Bids were received, June 21, for water pipes and development of natural filter; E. C. Bradbury and C. P. Shute, Engineers, Columbus, O.; the contract was awarded to T. C. Brooks and Sons, Jackson, Mich., at the following prices: excavation,



24,432 feet, at 12 cents; 4-inch cast-iron pipe, 7,600 feet, at 42 cents; 6-inch cast-iron pipe, 1,566 feet, at 70 cents; 8-inch cast-iron pipe, 13,338 feet, at \$1.09; 12-inch cast-iron pipe, 50 feet, \$2.04; cast-iron specials, 1½ tons, at \$100; 4-inch valves, 28, with box, at \$12.75; 6-inch valves, with box, 9 at \$17.85; 8-inch valves, with box, 17 at \$23.85; hydrants, 16 at \$33; 8-inch vitrified pipe, laid, 730 feet, at 20 cents; 6-inch vitrified pipe, laid, 630 feet, at 20 cents; excavation at river, 693 cubic yards, at \$1.20; concrete, 76 cubic yards, at \$10; 1-inch steel rods, 4 feet long, 10 at 20 cents; gravel backing, 36 cubic yards, at 50 cents; flash boards, ½-inch, at \$30; total of bid, \$25,360; totals of other bids: Nugent and Smith, Medina, O., \$36,874.89; Dervine, Willson & Applegate, Alliance, O., \$27,723.81; Medina Concrete Co. and E. A. Brown, Medina, O., \$28,971.78; Phillips and Bixel, Cleveland, O., \$28,071.45; Nitschke and Gibbons, Cleveland, O., \$32,802.68; Wildes & Davidson, Akron, O., \$27,396.73; Tibbets & Loomis, Medina, O., \$30,668.99; Jos. Winterbottom, Cleveland, O., \$29,190.14.

**Mt. Vernon, O.**—Evans and Harper and Adams Bros. are the low bidders for the paving of E. High street here.

**Newark, O.**—Brennen and Nuttner have the contract for paving East Main street.

**New Richmond, O.**—John Prudent and John Theil have been awarded contract to construct artificial stone sidewalks on portions of twenty-five streets at 57½ cents per lineal foot (5 feet wide); also for 9,000 lineal feet carriage drive, at 75 cents per lineal foot. —C. T. Bainum, Village Clerk.

**Marion, O.**—Jos. Murphy is low bidder for four sewer contracts aggregating \$2,000.

**Pauiding, O.**—Contractor Johnson will pave Williams street for \$15,000.

**Salem, O.**—The bids of Geo. Smith and Brother, of this city, and J. C. Devins, of Alliance, for the construction of three miles of sewer are being considered; the bids amount to about \$28,000 and call for 12, 15, 13 and 24-inch pipe.

**Springfield, O.**—Doyle & Caffery, of Springfield, have been awarded contract for outfall sewer at \$2.53 for 16-inch standard iron pipe, \$3.05 for 18-inch and \$5.55 for 24-inch; 1,704 feet reinforced concrete sewer, at \$1.35 for material and 55 cents for labor; 4,464 feet reinforced concrete, at \$2.20 for material and 91 cents for labor; manholes, \$55; special manhole, \$500; drop manholes, \$423; 20 cubic yards concrete masonry, class A, \$6 per yard; 50 yards, class B, at \$5.50; concrete outlet, \$100; concrete box culvert, \$222; total, \$22,768.88; also 5,950 cubic yards rock excavation, at \$2 per yard additional; total, \$11,900; depth from 35 to 17.67 feet; excavation earth with above price on each to be added; G. R. Stahlmann, of Dayton, bid \$20,592.40 on Parmley block; Phil. Hirsch and Sons, Wabash, Ind., \$13,586.40 for Jackson reinforced concrete pipe; Paul & Kershner, Dayton, \$27,438 for reinforced concrete; Huonker & Williams, Springfield, \$21,002.20, and Doyle & Caffery, \$21,044.24 on Parmley block.

**Toledo, O.**—James Sheehan was low bidder for paving lower Summit street from Ohio to Michigan at \$1.22 a square yard on broken stone foundation and \$1.54 on concrete, which is between 20 and 30 cents lower than other bids; H. P. Strucher bid \$2.39 on bitulithic; \$2.14 on Trinidad asphalt, and \$2.22 on bituminous macadam; this is the biggest paving improvement of the year, the estimated cost being \$110,000; there will be 30,400 square yards of paving; if double tracks are laid, as demanded by Council, the Rail-light will have 10,600 square yards, or 4,200 if single tracks are laid; the total length of the pavement is 5,660 feet; other contractors who submitted bids were Garrison Brothers, Barber Asphalt Paving Co., M. F. O'Sullivan and Ohio Paving Co.

**Wauseon, O.**—John Bernath and L. S. Harrison will construct a sanitary sewer to extend from Third street to the east corporation line.

**Youngstown, O.**—Jas. Kane has the contract for sewerage several streets for \$17,000.

**Zanesville, O.**—Bids for the Wain avenue paving have been accepted and the contract awarded to John M. McLane, of Bellaire.

**Portland, Ore.**—The following bids were received, July 12, by the Water Board for furnishing 200 hydrants, equipped with triple heads; Oregon Foundry, \$12,550; R. D. Wood & Co., \$9,400; Cardwell Bros. Co., \$12,500; Wilamette Iron & Steel Wks., \$14,400; Hoge & Smith, four bids, \$9,130, \$8,010, \$7,370, and \$8,620; bids for split sleeves and valves, were received from the Water Works Equipment Co. for \$6,010, and the A. P. Smith Mfg. Co. \$6,324.

**Johnstown, Pa.**—Paving contracts have been awarded as follows: Stonycreek street, Bader & Co., Savage brick, \$141 per square yard; Park place, John V. Best, Savage brick, \$1.48 per square yard; Washington street, George W. Clark, Mack brick, \$1.36; Sandy alley, Bader & Co., American Sewer Pine Company brick, \$1.30; Locust street, Baker & Co., American Sewer Company

brick, \$1.55; Bedford street, Charles H. Suppes, Mack brick, \$1.54½; Morrison alley, Best, Savage, \$1.43; Kennedy avenue, Fifth Ward, Best, Savage, \$1.45; Haynes street, Suppes, Mack brick, \$1.47½; Kennedy avenue, Sixth Ward, Best, Mack, \$1.52; Thomas avenue, Suppes, Mack, \$1.46½; Pine street, Best, Mack, \$1.53; Franklin street, Eighth Ward, Clark, American Sewer, \$1.44; Singer street, James & Fulton, Mack brick, \$1.47; Maple avenue, Best, Mack brick, \$1.43; Brixner alley, Suppes, Savage brick, \$1.22; Iron street, E. A. Freshwater & Sons, American Sewer, \$1.52; Fourth avenue, Bader, Mack brick, \$1.62; McConaughy street, Clark, Mack brick, \$1.62; Ohio street, Freshwater & Sons, Mack brick, \$1.68; Barron avenue, Freshwater & Sons, Mack brick, \$1.61; Bream avenue, Bader, Savage brick, \$1.47; Chandler avenue, Freshwater & Sons, American Sewer, \$1.58; Cooper avenue, Freshwater & Sons, American Sewer, \$1.55; the contract awarded for bridge building all went to Smith & Livingston, a Johnstown firm which agreed to erect the following bridges, with masonry walls, at the prices named: Ash street bridge, \$2,550; Linden street bridge, \$1,740; Fairfield avenue bridge, \$1,800; James & Fulton, the contract for cobble paving, as follows: Kingston alley, 37 cents a square yard; Gautier street, 55 cents; Katharine street, 57 cents; New street, 78 cents, and Honan avenue, 61 cents.

**McKeesport, Pa.**—Mayor W. H. Coleman has signed the contract for the \$200,000 filtration plant with Bowman Brothers Company.

**New Castle, Pa.**—The New Castle Contracting Company has been awarded contract for the paving of Mahoning avenue, Seventh Ward, for \$18,286.14, and for grading at \$1,397; G. H. Van Horn, for paving Sycamore street, at \$564, and Diamond street, at \$2,554.60; G. C. Cotter for grading Wich street, and S. R. Huey for constructing storm sewer in Garfield street, at \$550.

**Trezevant, Tenn.**—The contract for installing water works has been let to J. L. Richards, of Trezevant.

**Provo, Utah.**—The City Council has let contract to S. H. Belmont, of this city, for laying 373,250 square feet of sidewalks for \$48,622.

**Spokane, Wash.**—The Oregon Railroad & Navigation Company has awarded a contract to H. L. Lillenthal to construct a steel viaduct over east Olive avenue, which has just been graded. This gives the farmers of the East Spokane valley direct entrance to the city without crossing railroad tracks and will be the means of building up a new business district.

**Bluefield, W. Va.**—Kelly Bros. have been awarded the contract for all the street paving to be done here at their approximate bid of \$2.35 per yard.

**Wheeling, W. Va.**—The National Water Main Cleaning Co. has received a contract from the City Water Board for cleaning 7,000 feet of water mains.

**Halifax, N. S., Can.**—Tenders were received recently for paving about 24,000 yards of roadway, as follows: Warren Bituminous Paving Company, of Ontario, bitulithic, 2-inch wearing surface, 5-inch concrete base, \$2.88 per square yard; 4-inch concrete base, \$2.75 per square yard; acme asphalt, 5-inch concrete base, 1-inch close binder, 2-inch wearing surface, \$2.459 per square yard; Barber Asphalt Paving Company, Trinidad asphalt, \$2.59 per square yard; Sicily Asphaltum Paving Co., Bermudez asphalt, \$2.65 per square yard; the tender of the Barber Asphalt Paving Co. was accepted.—F. W. W. Doane, City Engineer.

## INCORPORATIONS

**Alsen's American Portland Cement Works of New York, Catskill, N. Y.**; to manufacture Portland cement, etc.; capital, \$2,400,000. Incorporators: William P. Corbett and Julius de Vries, 45 Broadway, New York; Max Capps, Catskill, N. Y.

**Angelesea Water Company, North Wildwood, N. J.**; to operate water works in the borough of North Wildwood; capital, \$100,000. Incorporators: George Reynolds, Ernest Watts, S. Howard Troth, Camden, N. J.

**Chicago Subway Arcade and Traction Company, Chicago, Ill.**; to build a rapid transit system in Chicago. Incorporators: J. Ogden Armour, George W. Jackson, Bion J. Arnold, John Powers, William Penn Nixon, president, Edwin F. Getchell, John M. Ewen, Dwight H. Perkins, Samuel M. Rowe and S. D. Gerkens, secretary.

**Chicago Wisconsin Traction Company, Chicago, Ill.**; to construct an elevated line from Chicago to the Wisconsin line; capital, \$10,000,000. Incorporators: Lewis E. Starr, 19 Indiana street; Walter Wandhe, 778 North Leavitt street, Philadelphia; P. Lynch, 542 Forty-seventh street, and George W. Miller, 395 Forty-sixth street.

**Connecticut River Power Company of Maine, Portland, Me.**; dams, power plants,

etc.; capital, \$500,000. President, H. L. Cram; treasurer, A. F. Dunham; clerk, C. D. Booth, all of Portland, Me.

**Cow Bay Sand Company, Port Washington, L. I.**; to dig, quarry, mine and deal in sand, gravel, stone, bricks, lumber and building materials; capital, \$25,000. Incorporators: William Titus and Alida L. Titus, East Williston, N. Y.; John Titus, Oyster Bay, N. Y.

**Delaware and Sullivan Telephone and Telegraph Company, Long Eddy, N. Y.**; telegraph and telephone lines; capital, \$10,000. Incorporators: J. T. Male, H. W. McKoon, A. M. Chandler, Long Eddy, N. Y., and others.

**Earlville Electric Light Company, Earlville, N. Y.**; to manufacture electricity for light, heat and power; capital, \$10,000. Incorporators: Guy H. Clark, Bernard S. Kittridge, John R. Parsons, Jacob D. Mires, Earlville, N. Y.; Thomas C. Ward, Baltimore.

**General Electric and Improvement Company, Atlanta, Ga.**; to develop power. E. D. Thomas and M. M. Anderson.

**Greenfield Light and Power Company, Greenfield, Ill.**; to operate light, heat and power plants; capital, \$7,500. Incorporators: J. T. Callaway, H. C. Morrow, C. R. Sheffield.

**Hudson Engineering Company, Jersey City, engineering, excavating, contracting, etc.; capital, \$450,000. Incorporators: Fred D. Kennedy, 640 Madison avenue; Robert L. Messiner, 9 East Forty-third street, both of New York; Alfred Edgcombe, Crawford, N. J.**

**Hygienic Suburban Sewage Company, New York, to install sewage for country homes; capital, \$10,000. Incorporators: E. D. Cronin, 277 Vanderbilt avenue, Brooklyn; Fred Knowlton, 638 East 139th street; Edgar A. Monfort, 135 St. Nicholas avenue, both of New York.**

**International Fire Shield and Water Tower Company, Baltimore, Md.**; to manufacture fire department apparatus; capital, \$150,000. Incorporators: Solomon German and others.

**Lancaster Construction Company, Buffalo, N. Y.**; electrical, mechanical and civil engineers and contractors; capital, \$1,000,000. Incorporators: Ernest W. Skeey, John A. McLaughlin, Jr., John M. Wellings, Buffalo, N. Y.; F. W. Lamping, Jr., Philadelphia.

**Lawrenceville Sewer and Drainage Company, to furnish drainage and sewerage; capital, \$10,000. Incorporators: W. S. Titus, O. V. Hardacre, J. B. Stout.**

**Lisbon Falls Gas and Electric Company, Lisbon Falls, Mass.**; gas and electricity; capital, \$50,000. President, W. H. Newell, Lewiston, Me.; treasurer, H. E. Plummer; clerk, W. E. Plummer, both of Lisbon Falls, Me.

**May-Oatway Automatic Fire Alarm Company, Augusta, Me.**; fire alarms of all kinds; capital, \$500,000. President, E. J. Pike; treasurer, L. A. Ingalls; clerk, C. L. Andrews, all of Augusta, Me.

**Merchants' Power Company, Chicago, Ill.**; to create and distribute power for light and heat, to manufacture appliances for generating electricity; capital, \$2,000,000. Incorporators: Jesse J. Ricks, Chicago; James L. Wolcott, James Virdin, Dover, Del.

**Morris and Somerset Electric Company, Morristown, N. J.**; to manufacture and generate electric current for light, heat, and power; capital, \$500,000. Incorporators: Francis Landon Humphreys, John M. Forbes, Samuel H. Gillespie, Morristown, N. J.

**Mount Union Light, Heat and Power Company, Mount Union, Ia.**; capital, \$5,000. Incorporators: H. Lassat Goydin, F. King Wainwright and W. Innes Forbes, Philadelphia.

**Newton Telephone Company, Chicago, Ill.**; to construct, maintain and operate telephone and telegraph lines, etc.; capital, \$50,000.

**Northern Water Company, Millinocket, Me.**; to supply water; capital, \$50,000. President, J. J. Moore, Hingham, Mass.; treasurer, E. H. Gowing, Reading, Mass.; clerk, H. S. Ferguson, Millinocket, Me.

**Pennsylvania Tunnel and Terminal Company, New York, N. Y.**; a merger of the Pennsylvania, New York and Long Island Railroad Company on the Pennsylvania, New Jersey and New York Railroad Company; capital, \$40,000,000. Incorporators: James McCrea, president of the Pennsylvania Railroad; John P. Greene, Charles T. Pugh, Samuel Rea, Henry Tatnall, William H. Barnes, Thomas De Witt Cuyler, Clement A. Griscom, J. D. Crimmins and F. L. Shepard, all of whom are connected with the directorates of the Pennsylvania Railroad or the two merged companies.

**Pennsylvania Vitrified Brick Company, Cameron, Pa.**; capital, \$100,000. Incorporators: W. H. G. Walker, E. N. Walker, Cameron; C. H. McCutcheon, Frank L. Bapst and W. H. Kinch, Buffalo.

**People's Gas and Electric Company of Savannah, Ill.**; to operate public utility plants; capital, \$80,000. Incorporators: Frank Zinnel, Frank S. Greenleaf, Rou O. Howe.

**Pulaski Water Company, Pulaski, Pa.**; capital, \$20,000. Incorporators: John W. Nickum, Charles F. Simpson, David Tod, Norman R. Rodgers, Samuel A. Wortman.

## TRADE NOTES

**Garbage Reduction.**—The American Extractor Company, 601 Bannigan Building, Providence, R. I., issues a pamphlet illustrating the plant of the New Bedford Extractor Company and describing the Wheelwright Hot Water Reduction Process used at that plant. It is claimed that the cost of installation and maintenance of a plant operated under their process is less than that of other reduction processes. The company does not erect plants, but will supply plans and grant licenses to operating companies. The patented machinery used is built of special gun iron, capable of withstanding the action of acids. The digestors can stand a pressure of 250 pounds, although the process requires only 30 pounds. In order to permit a number of wagons to unload at one time vaults are provided in which the garbage is dumped and stored temporarily. The pamphlet contains extracts from annual report of the Board of Health of New Bedford, commenting favorably on the work.

**Street Signs.**—The first pole of the new system of street signs at Memphis, Tenn., has been set by the American Street Sign Company, Clyde, O. They will carry four-way signs, which can be read from four directions. The lettering is done in white enamel raised on black ground. Mail boxes will probably be placed on these poles on Main street, as Postmaster Dutro has asked permission to set posts and boxes on the street, and duplication is unnecessary. A complete revision of names of city streets has taken place, and City Engineer Omberg has completed a directory and will have 5,000 copies published for distribution.

**Transformers.**—The Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., is constructing eight of the largest transformers known to the electric industry. Each of them is of 1,000 kilowatt capacity. They will be installed in the City of Mexico, where the local electric light and power company is making very extensive improvements. The City of Mexico obtains a very large part of its electric power from a waterfall 60 miles away, where electric current is generated at a pressure of 60,000 volts. When this high pressure current is transmitted through transformers it is reduced to 20,000 volts. Then it is again transmitted to five dif-

ferent substations surrounding the city, where the transformers now under construction by the Westinghouse Company will be installed. These transformers will reduce the voltage of the electric current to 3,000 volts. This 3,000-volt current will be used to operate a number of motor generator sets from which a 600-volt current is taken to operate the motors on the street cars of the city or to furnish electric light.

**Wood Preserving.**—The Carbolineum Wood Preserving Company, 349 West Broadway, New York, issues a pamphlet describing the uses of its wood preservative. It is a heavy oil possessing antiseptic ingredients tending to kill the rot producing organisms within the wood, while its fatty oils seal up the pores of the wood where applied, and prevent the entry of destructive germs. The preparation is insoluble in water, and readily strikes into the wood. It is of value wherever a good preservative is required.

## PATENT CLAIMS

856,409. Concrete Sidewalk. Donald G. McDonald, Detroit, Mich. Serial No. 344,013.

In a concrete sidewalk, the combination of a tread member having integral projecting holding strips near each end of its under surface, a plurality of rows of stringers having their upper surfaces grooved for the reception of said holding strips, and having the end portions of each stringer formed to interlock with the complementary ends of adjoining stringers, and supporting blocks whereon the meeting ends of the stringers rest, substantially as described.

856,412. Electric Meter. Arthur J. Martin, Rugby, England, assignor to General Electric Company, a Corporation of New York. Serial No. 341,777.

An electric meter comprising a field of substantially constant strength on full load, a rotatable armature, connections for supplying to said armature a voltage proportional to the load-current, a registering train driven by said armature, and means for producing a decrease in the strength of said field on light load.

856,770. Cylinder for Mechanical Driers. William M. Cummer, Cleveland, Ohio. Serial No. 352,858.

A drying cylinder formed of a plurality of segmented sections spaced apart at their edges, and rigid connecting pieces extending the full length of the cylinder between the edges of said sections and provided with draft openings.

856,831. Dumping-Wagon. Frank Aldrich, Detroit, Mich., assignor of one-half to Edmund L. Ebert, Detroit, Mich. Serial No. 323,028.

In a wagon, the combination of a front and rear axle, a reach extending between said axles, a standard rising from each end of said wagon, a bearing in each of said standards, a box provided with arbors at its ends resting in said bearings, a latch on said reach, said box being adapted to be engaged by said latch when said box is in its normal position.

856,928. Roadway for Vehicles. Zachary T. Sweeney, Columbus, Ind. Serial No. 331,816.

A roadway composed of concrete having parallel tracks which are firmly held together and kept in place by integral cross bars of the same material, thus forming a solid roadway and doing away with all mechanical appliances for holding the tracks together.

857,262. Ground and Fault Detector for Electric Distribution Systems. Philip Torchlo and Thomas W. Varley, New York, N. Y. Serial No. 361,201.

In a device for indicating capacity disturbance on a main line and feeder system, a plurality of feeders of normally balanced capacity and means for selecting the particular feeder, the fault on which has caused said capacity disturbance.

857,372. Evaporator and Extractor for Garbage Reduction. Frederick G. Wiseloge, Indianapolis, Ind., assignor to United States Construction and Utilization Company, Rochester, N. Y., a Corporation of New York. Serial No. 338,174.

In an extractor and evaporator, the combination with a receiving chamber having a longitudinal slot in its bottom and an opening in its head at the end of said slot, a closure for said opening, and a filter structure supported in said channel and longitudinally withdrawable therefrom through the opening in the head, a heating jacket embracing the lower side of the receiving chamber and a cooling saddle embracing the upper side of said chamber.

857,415. Street-Sweeping Machine. Georg Pum, Vienna, Austria-Hungary. Serial No. 283,471.

A street sweeper comprising in combination, a carriage having a rear axle, a frame pivotally mounted thereon, means for raising and lowering the forward end of said frame, curved guides for said forward end whose center of curvature coincides with the rear axle, said guides comprising channel irons, said frame having lifting arms projecting into said channel guides, and supporting arms embracing said channel guides, a brush rotatably mounted on said frame and adapted to be lowered into and raised out of engagement with the street surface, gearing mounted on said frame and driven by said rear axle to operate the brush in a direction opposite to the wheels of the vehicle, and a receiver on said frame located in delivering proximity to said brush.

857,553. Protecting Device for Chemical Fire-Extinguishers. Raimund Graf, Pohrlitz, Austria-Hungary, assignor to Minimax Consolidated Limited, London, England, a Firm. Serial No. 360,772.

Protective device for fire extinguishers consisting of two caps, one over the nozzle at the top of the extinguisher and the other at the bottom covering the push button for effecting the action of the chemicals, a chain loosely connecting said caps and a seal between two links of the chain, overbridging a loop of a number of links of the chain, to keep the chain taut between the caps and thus prevent their accidental removal.

857,563. Apparatus for Feeding Lime to Water. Frederick B. Leopold, Evanston, Ill., and Charles A. Brown, Lorain, Ohio; said Leopold assignor to Pittsburgh Filter Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Serial No. 325,986.

In apparatus of the character described, the combination of a suitable lime-paste receptacle, a water tank communicating therewith, means for subdividing the lime paste, and means for feeding such subdivisions successively to said water tank.

## George W. Jackson, Inc.

BRIDGES, STRUCTURAL STEEL, MACHINERY, SUBWAYS,  
TUNNELS AND HEAVY FOUNDATIONS

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## Proposals

### BRICK PAVING

Proposals for improving Main and Walnut Streets will be received by the Borough Council of Sharpville, Pa., as follows:

Streets to be paved with vitrified paving block on six-inch concrete base and filled with an asphalt filler, covering approximately 11,700 square yards.

All bids to be sealed and presented to Council not later than 7 p.m., at regular meeting of Council, Tuesday, August 6, 1907, when said bids will be opened publicly.

Each bid must be accompanied by a certified check of one thousand dollars (\$1,000) as a guarantee that the successful bidder will sign the contract. Check to be made payable to Borough Secretary or Treasurer, C. E. Agnew.

The successful bidder will also be required to furnish one ten-thousand-dollar (\$10,000) indemnity bond and one guaranty bond of not less than one-fourth (¼) of total amount of the work.

The Borough reserves the right to reject any or all bids.

All bids must be sealed and delivered to W. A. Graber, Borough Secretary, where specifications may be had on request.

W. A. GRABER, Secretary.

Sharpville, Pa., June 29, 1907.

### BRIDGE

New Orleans, La., May 31, 1907.

Pursuant to ordinance No. 4551, N.C.S., sealed proposals will be received at the office of the Comptroller in the City of New Orleans until the hour of 1 p.m., Monday, July 15, 1907, for the erection of a new bridge of the Bascule, or lift type, to span Bayou St. John, on the prolongation of the axis of Esplanade avenue, in accordance with plans and specifications on file in the office of the City Engineer.

Deposit \$1,500 with the City Treasurer, and his receipt enclosed with bid.

Bond in an amount equal to the contract price.

The City Engineer will furnish bidders with a blank form of proposal; no proposal will be considered unless submitted on such form. Bidders must have paid their city license in order that their bids may be accepted.

Terms of payment, cash.

The city reserves the right to reject any and all bids.

CHAS. R. KENNEDY,  
Comptroller.

### INTERIOR WORK—COURT HOUSE

Luzerne County Court House.

Sealed proposals will be received by the County Controller of Luzerne County, until 2 o'clock p.m., Monday, July 15, 1907, for the construction of the interior work of the Court House building of the County of Luzerne, now being erected on river common, at the corner of North River and North streets, in the City of Wilkes-Barre, Pa. Plans and specifications prepared by McCormick & French, Architects, and blank forms of contract to be entered into can be seen at the Commissioners' office, in the Court house on Public Square, Wilkes-Barre, Pa.

Every bidder must sign the form of contract on file in the Commissioners' office of Luzerne County, and file a bond with and as a part of the bid. The bond shall be in the amount of the bid, and shall be executed by a surety company or by sureties satisfactory to and approved by the Commissioners of Luzerne County.

A certified check or a bond for 5 per cent. of the amount of the bid must be enclosed in an envelope containing the proposal, as a guarantee that the bidder will enter into the contract, if his bid is accepted by the County Commissioners.

Every bidder must set forth in his proposal the number of days in which he will complete the contract from the time of the execution and delivery of the contract.

All bids to be filled out on blanks which can be had at the County Commissioners' office of Luzerne County.

All certified checks and bonds deposited by bidders whose proposals shall not be accepted by the County of Luzerne will be returned to the person or persons making the same as soon as the successful bidder has been selected.

Bidders must set forth in their proposals their names and places of business and the delivery of a notice to such place of business shall be deemed to be a sufficient delivery and notice to such bidder.

The contract will be let to the lowest and best bidder and if the bidder shall fail to commence work under the contract as required, the amount of the certified check or guarantee bond for 5 per cent of the contract price shall be forfeited to the County of Luzerne without diminishing or impairing its just right to damages.

The County of Luzerne reserves the right to reject any and all proposals and shall not incur any liability hereunder unless contract be executed by the county commissioners.

Bids to be indorsed, "Proposals for con-

struction of the interior work of the new court house, Wilkes-Barre, Luzerne County, Pa.," with the name of the person or persons or corporations making the same.

JAMES M. NORRIS,  
Controller.

Attest:

JAMES A. DEWEY,  
Deputy Controller.

### ELECTRIC LIGHTING

Bradford, Pa.

Address E. C. Charlton, City Clerk, Bradford, Pa.; bond of \$1,000; bids close July 15; contract to start June 13, 1908; minimum 141 all-night street lights.

EDWARD C. CHARLTON,  
City Clerk.

### BRIDGE

Mt. Pulaski, Ill.

The Lake Fork Special Drainage District, etc., will receive bids up to July 15th, at 1 o'clock p.m., for the construction of five steel bridges to be erected over the Drainage District of said District, three of said bridges being 60 feet long and two 80 feet long, all being 12 feet wide.

Sealed bids, accompanied by check certified by some Logan County Bank to the extent of 10 per cent. of bid to be in the hands of some of the undersigned Commissioners, or their attorneys, Tomlinson & Smith, at Mt. Pulaski, Illinois, by 1 o'clock p.m., July 15, 1907.

W. E. BIRKS,  
GEO. T. LUCAS,  
W. H. WILLIAMS,  
Commissioners.

### RESERVOIR DAM

U. S. Engineer Office, P. O. Box 654, St. Paul, Minn., June 20, 1907.—Sealed proposals for the reconstruction of Sandy Lake reservoir dam will be received at this office until 11 a.m., July 20, 1907, and then publicly opened. Information furnished on application.

EDWARD H. SCHULZ,  
Capt. Engrs.

PHYSICIAN—With three years' experience in bacteriological and sanitary chemical work, would like to associate himself with a firm of sanitary engineers.—Address W. G. B., Municipal Journal and Engineer.

PROFESSOR—high grade man for chair of chemistry in leading university, \$2,000 to start; also one for Mechanical and Electrical Engineering. Hapgoods, 305 B'way, N. Y. City.



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Sizes — 1½, 2, 2½ Cu. Yds.

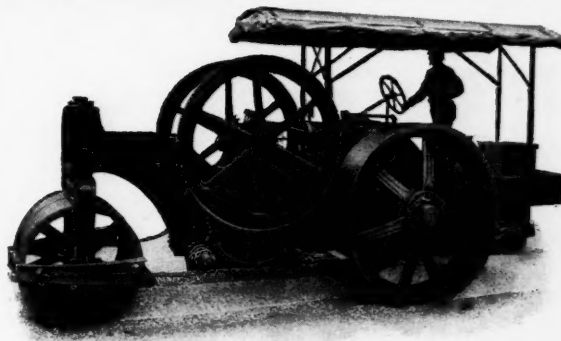
When thinking of Dump Wagons, you instinctively think of "AUSTIN."

It is not an easy matter to efface a record of reliability covering thirty years! Our Patent Self-lifting Doors and Universal Bolster Plate Features make them more dependable than ever.

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Operated with either Gasoline or Denatured Alcohol.

Sizes — 7 tons, 10 tons, 12 tons, 15 tons.

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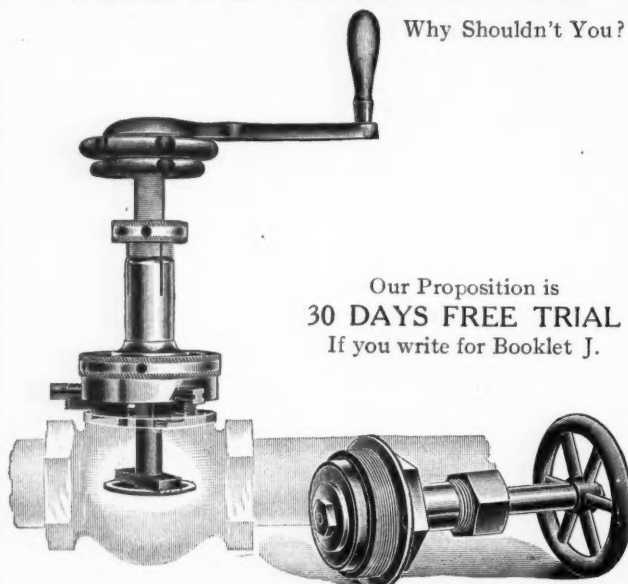
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CHICAGO, ILL.

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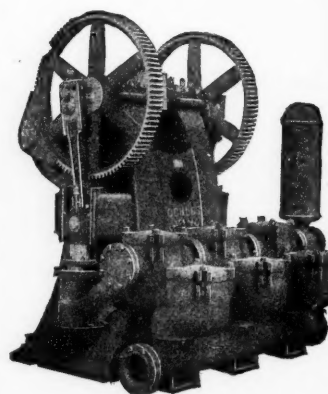
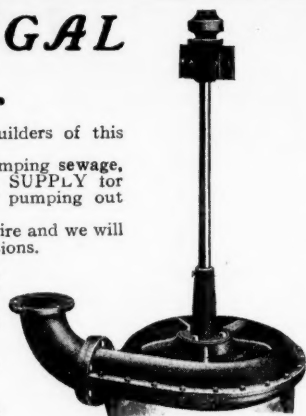
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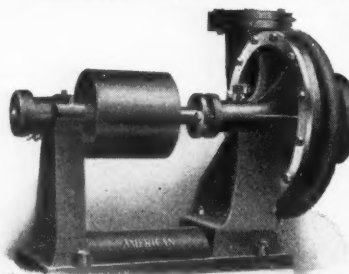
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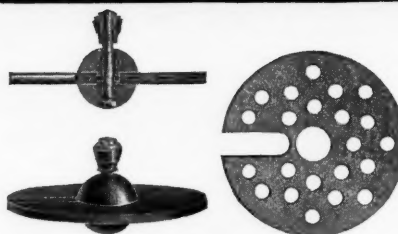
For City Water Works, Ditch and Trench Work, Irrigation or Reclamation Work.

Or any Water Pumping Proposition requiring economy and efficiency. Sold under a positive guarantee of mechanical efficiency.

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DENVER, Colo., Morse Bros. Machine and Supply Co.  
DALLAS, Texas. SAN FRANCISCO, Cal., 305 Market St.  
JOPLIN, Mo. NEW ORLEANS, La., J. H. Menge & Co.

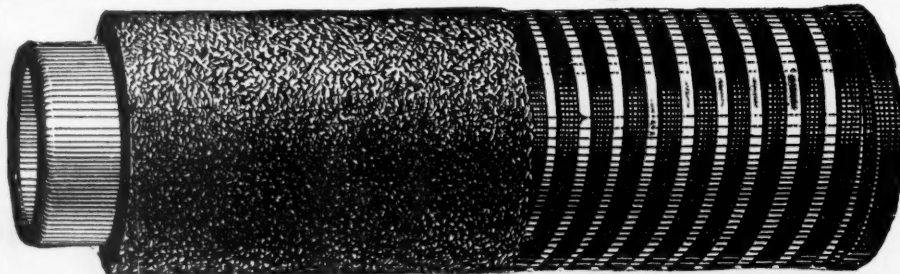
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All sizes from 5-8 of an inch to 6 inches fitted with patented Hard Rubber Discs reinforced with a perforated internal Steel Plate.

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It is not corroded by the fumes and acids of many fluids.  
It is not destroyed by sulphur or other impurities in minerals.

Does not taint water nor contaminate fluids carried.  
If frozen, the elasticity of the wood prevents bursting.  
It prevents electrolysis.

**WYCKOFF SUPPLY CO.**

Under proper conditions it is as durable as cast iron.

It is more durable than wrought iron or steel. It is cheaper than either wrought or cast iron or steel.

By its continued use its capacity does not decrease, whereas that of iron or steel does decrease yearly.

Its initial capacity is 15% greater than that of cast-iron pipe.

It needs no skilled labor in laying.

It can be laid with less width of excavation.

It can be laid at less depth because it is not as readily affected by frost as is either iron or steel.

It can be laid in the wettest kind of a trench.

Salt water does not affect it.

There is no extra cost for caulking joints in laying.

**ELMIRA, N. Y., U. S. A.**